

**Nepalese Doctors' Association UK**

**Established 1985**



**NDA Journal/Souvenir**

**23<sup>rd</sup>**

**Annual Conference**

**8 - 10<sup>th</sup> August 2008**

**Sheffield**

# Nepalese Doctors' Association (UK)

Many Nepalese doctors have been coming to the United Kingdom for their postgraduate studies for many years. Some of them have settled in various parts of Britain and made this their home from home. In 1984 they held a series of meeting at various venues with the aim of bringing these doctors and families together, and Nepalese Doctors' Association NDA (UK) was established in 1985. The first Annual General Meeting was held in 1986 at Durham University under the chairmanship of Dr. Prem B Hamal. The association has since then grown and the tradition of an annual meeting every summer has continued. This annual event is not only a chance to share medical knowledge in the scientific session and discuss the progress of the organisation, but is also a great social event to catch up with old friends and meet new ones. The association is a non-political, non-racial and non-profit making voluntary organisation open to all Nepalese doctors presently residing in UK.

## Executive Committee Members 2007-2009

Dr. Prasanna Gautam	Chairman
Dr. Arun Kumar Jha	Vice-chairman
Dr. Shabin Joshi	General Secretary
Dr. Ramesh Khoju	Treasurer
Dr. Milan Kumar Piya	Joint Secretary
Dr. Shambu Acharya	Member
Dr. Badri Man Shrestha	Member
Dr. Sarju Man Shrestha	Member
Dr. Madan Sharma (IPP)	Member

## Local Organising Committee for this AGM 2008

Dr Badri Man Shrestha  
Sita Shrestha  
Dr Basanta Kumar Shrestha  
Nirmala Shrestha  
Dr Padam Kumar Rai  
Bangala Rai

## Editorial Policy

NDA Journal is published annually from the material provided by doctors, their family members and friends in the UK and abroad. Both medical and non medical articles are welcome. Non-medical articles should be impartial, non-political and if possible linked to Nepal and Nepalese cultural heritage. Medical articles should be original, properly referenced e.g. Vancouver style. Preferably medical articles should be general and not

too specialised intended for a wider variety of readers rather than a special interest group. Health related articles simplified to be understood by the lay public are encouraged. Interesting case histories and abstracts of articles published in other journals are also accepted.

**Articles, both medical and non-medical should be brief and concise, and should preferably not exceed 1500 words (although exceptions will be made at the editorial board's discretion).**

Short stories, poems, travel experiences, recipes, anecdotes, etc. are included in the journal. Views, particularly in relation to medical, dental and social aspects of life are most welcome. Relevant health news, news and achievements in academic and social life of NDA UK members and their families are given ample space. There is also space for readers' feedback in the form of letters to the editor.

## Notice to the contributors:

Material for publication should be typed clearly in double space and submitted preferably electronically as a word attachment well in time for publication. The editorial board reserve the right to reject any article they deem inappropriate. It also is not responsible for not publishing articles submitted late.

An NDA Newsletter is published in February/March every year to update members and their families on the association's activities. It also publishes news and achievements of the members and their families. This is now being published on the website and also being sent via email. For those who would like a copy of the newsletter sent via post, please contact Dr Milan Piya or any of the executive committee members.

**Editor & Layout:** Dr Milan Kumar Piya

**Website:** <http://www.ndauk.org.uk>

**Web Design:** Dr. Ramesh Khoju

**Feedback:** Please send your feedback to  
[milanpiya@yahoo.com](mailto:milanpiya@yahoo.com)

**Opinions and views expressed in the published articles in the journal are not necessarily the views of the Nepalese Doctors' Association (UK)**



## Editorial

This year, it has been decided that we will only publish an ejournal and not a paper copy as in previous years. Cost of printing is a major factor. Also, I struggled to collect many articles on time. Most of the articles in this journal were received in July or August! It doesn't mean any less work for me though, and it seems that working on a journal till late at night is tougher with a baby in the house. And my new job as a clinical lecturer in Diabetes in Endocrinology plus moving to Birmingham has made it an extremely busy year for me.

Dr Amit Bajracharya seems to have come across more than your everyday patient and has aptly titled an 'Epic Journey' from Kathmandu to Cumbria on a motorcycle. We have a great story by Jessica Gurung 'Eighteen' and also poems by Prameshta Khoju Shrestha 'Our Seasons' and 'Reality'.

Dr Shambhu Adhikaree has packed years of experience as a stroke physician and written a great review article. Dr Dhiraj Tripathi has shared his expertise in Variceal Bleeding with a article on 'Endoscopic Therapy for Bleeding'. Mr Pukar Shrestha seems to be helping facilitate a new renal transplant program in Nepal and Roshan Lal Shrestha gives a review on the best Lab Marker for Bone Metabolism.

This year for the first time, we have abstracts published here of oral presentations in the scientific session at the AGM. There are 6 abstracts published here.

As any other year, there is a news section which I am sure is less than complete but have included any news that I have been informed of or heard of through the grapevine.

I am sure a lot of people will be less than pleased about not having a paper version of the journal. It does not mean less work for me, and I am sure this will be discussed in our AGM. Please give me your feedback.

Enjoy the AGM.

Milan Piya

## Contents

Message from the Chairman	Page 4
General Secretary's Report	Page 5
An Epic Journey	Page 6
<i>Dr Amit Bajracharya</i>	
Our Seasons	Page 7
<i>Prameshta Khoju-Shrestha</i>	
Eighteen	Page 8
<i>Jessica Gurung</i>	
Reality	Page 9
<i>Prameshta Khoju-Shrestha</i>	
Stroke	Page 10
<i>Dr Shambhu N Adhikaree</i>	
Endoscopic Therapy for Bleeding	
Gastric Varices Page 12	
<i>Dr Dhiraj Tripathi</i>	
Can Nepal have a Transplant	
Program Soon? Page 16	
<i>Mr Pukar Shrestha</i>	
The Best Lab Marker for Bone	
Metabolism: A Review Page 17	
<i>Roshan Lal Shrestha</i>	
Treasurer's Report	Page 23
NDA News	Page 24
<b>Abstracts</b>	Page 20-22
1. Virtual Panendoscopy-A New Tool for Evaluating Oral Cancer	
<i>Mr S Sah</i>	
2. Randomised controlled trial of carvedilol versus variceal band ligation for the prevention of the first variceal bleed	
<i>Dr Dhiraj Tripathi</i>	
3. Nepal Diaspora Volunteering Program	
<i>Prakash Khanal</i>	
4. Renal Transplantation: Current Perspectives	
<i>Mr Badri Man Shrestha</i>	
5. Quality of Live Kidney Donors	
<i>Dr Anne Shrestha</i>	
6. Quality of Life of Live Donor Renal Transplantation	
<i>Dr Alice Shrestha</i>	

## CHAIRMAN'S MESSAGE

Our association is celebrating its 24<sup>th</sup> anniversary at a time when the mother nation Nepal is rejoicing and looking forward to a new era of peace, prosperity and good will for all. It is perhaps a big boost for us that a contemporary physician, the son of a peasant farmer, has been elected to the highest office of the President of the Federal Democratic Republic of Nepal. We congratulate Dr Yadav and wish him a most successful term of office of immense importance to Nepal.

It has taken us considerable effort and time to arrange regular executive committee meetings as the current executive committee members hail from north to south and from east to west of the country. In addition, we have been able to strengthen our relationships with several sister organisations and the Nepal Embassy.

Two of the particularly notable activities during the last one year have been the gathering at Blackpool of predominantly younger members of the association and a Transcultural Psychiatry seminar at Watford. The first meeting explored the possibilities of increasing the participation among the younger members. The second turned out to be a large regional meeting and a unique amalgam of reports on psychiatric services from many parts of the world. This was most fascinating and informative. The organisers, Drs Shambhu Acharya, Arun Jha and many others behind the scene deserve our gratitude and thanks.

Most of the delegates appeared to have a good time in Aberdeen last year, in spite of the early morning fire alarms on two consecutive nights at the hotel. Let us hope that your sleep will not be disturbed this time. Dr Badri Man Shrestha and his team have left no stone unturned to make this event a most enjoyable and fruitful occasion. I would like to welcome you with your families and friends to an environment of *bon homie* and *comraderie* and hope that all of you will enjoy and make this occasion a most successful Annual General Meeting.

Let us all have a good time.

**Prasanna Gautam**

## Executive Committee Photo

From Left to Right: Dr Prasanna Gautam, Dr Badri Man Shrestha, Dr Arun Kumar Jha, Dr Madan Sharma, Dr Ramesh Khoju Shrestha, Dr Shambu Acharya, Dr Sarju Man Shrestha  
Missing: Dr Shabin Joshi, Dr Milan Piya



## ANNUAL REPORT OF THE GENERAL SECRETARY

This year the 'Tihar' or 'Dipawali' started off with a big bang for those on HSMP visa with BAPIO's win in the high court. Another proof of what unity can achieve.

The NARIC issue remains unresolved in spite of the Chairman and me trying our best. The chairman even raised it in the meeting of the International Doctors Action Group on October 3<sup>rd</sup>, 2007 (BMA House). Do not know how we can influence it any further. This is one issue which will need to be discussed in detail once again in the AGM. The chairman and I also attended International Medical Graduations meeting in Oxford (Nov, 30<sup>th</sup>, 2007). The meeting helped us to be incorporated into the mailing list of the International Doctors Association in the UK and gave us an opportunity to work in a bigger platform as a separate entity and share our mutual experiences.

On Nov. 24<sup>th</sup>, 2007, a combined executive committee meeting and junior Doctors gathering was held in Blackpool. The participation was excellent, the points discussed were pertinent and suggestions received from our young doctors very encouraging. The choice of venue and the hosting by Mr. and Dr. K Aryal was outstanding. Hertfordshire Trans-cultural Psychiatry Forum was formally launched by Dr. A and Mrs. Jha along with a charity dinner in February 2008. I do not know when they will be tired of organising phenomenally successful gatherings. Our Kudos to them.

As a final preparation for the AGM, executive committee meeting was held in beautiful Aberystwyth. In spite of short notice, Dr. and Mrs. Khoju did a marvelous job, not less were the participants who took extra effort to be there on time, braving the appalling weather.

Mr. and Mrs. P Shrestha organised and co-ordinated a trip to Nepal of a renal transplant team from Freeman Hospital, in March 2008 with an aim to assist Nepali counterpart for initiation & establishment of renal transplant programme in Nepal. The team conducted a series of meetings with Prime Minister, speaker of interim parliament, health minister, supreme court justice and MPs and held discussions with Kathmandu valley hospital directors and nephro/urologists. The team also had an informal meeting with UNDP Nepal country director and other UN officials. Hats off to him!

We also should not forget to congratulate Dr. Baral who took a team from Southampton to run a paediatric training and health camp in Nepal.

On behalf of the NDA, DR. A Jha, Dr. C Karki and I, had an informal meeting with the health minister, Hon. G Pokhrel and his advisor Mr. M Maskey on Sep 5<sup>th</sup>, 2007, in London and the following points were mentioned:

- Need of a separate mental health section in the health ministry.
- Nepalese MBBS not being recognized for HSMP
- Requesting for the reduction in the duration the fresh Nepalese doctors need to work in the remote areas of Nepal prior to their permanent registration.
- NDA is a socio-professional organisation willing to work closely with the Nepalese Health Ministry.

Dr. Chuda Karki attended the meeting put forward to sell the embassy building, when he strongly voiced his concern and suggestions, to the delegation on our behalf.

The new ambassador his excellency M Sharma invited us to attend a preliminary meeting, regarding holding of a Nepalese business fair in London, this October. We gave our suggestions and offered to help the organisers in whatever way we can, is asked for.

The chairman met doctors and health personnel from different hospitals and organisations in Nepal. We look forward to hearing about his experience in our AGM.

I take this opportunity to thank Dr. Ramesh Khoju for successfully taking over the maintenance and upgrading of our website. It was a very hard act to follow. Once again thanks to all the doctors and individuals who contributed to our modest charity fund.

**Shabin Joshi**

## An Epic Journey- Kathmandu to Lake District in 1000cc Royal Enfield

**Amit Bajracharya**  
GP Registrar

I have had many people asking how GPs manage seeing patients in 10 minutes. This was, even my biggest challenge before I started working. However, with time, I have realised that with knowing patients well there are much more things we could talk about rather than just worrying about patient's presenting problems. In one of these 10-minute consultations I got to know a worried father concerned about his son and daughter-in-law who were on the way for a challenging journey from Kathmandu to their home town-Kendal in Lake District. I, obviously being keen newsreader of Nepalese websites, was aware of the information but not in my weirdest imagination had I ever dreamt that the same news would be coming through my door.

The Sarimilla Trust was formed in 2001 and registered as a charity the same year. The trust was named after a young girl that Steve and Dawn Cottam met during one of their stays in Kathmandu. Sarimilla had been taken in a family with whom they had stayed. During the month she stayed with them they got to know her very well. They got to know how vulnerable young children were in Nepal. Sarimilla, her three sisters and mother had been living with relatives in Kathmandu since arriving there from the hills near Pokhara after her father had left home and not returned. One day her Uncle turned up demanding payment for working as a domestic worker, which was not agreed before. She was very young and was planning to go to school. Without any explanation, though with Sarimilla's reluctance, she was dragged into the crowd of busy Kathmandu streets. This was the last time they ever saw her.

The Cottams met up with Elizabeth Green and Louise Donovan – few other well wishers of Nepal and founded

the Sarimilla Trust in 2001. The trust was formed to help communities in rural Nepal. This aimed at helping families who could not afford trips outside their village for basic healthcare and training.

The first project the trust funded was the building of a school in Helambu as the old school was falling down after years of neglect by the government. From here the Trust has expanded and grown by providing the following:

- school sponsorship for 56 children
- farmers training in sustainable agriculture
- school education in sustainable agriculture
- building of dormitories, kitchen, toilet and shower block at a special needs school
- funding for locally formed group providing tailoring training for women

In an effort to keep much needed funds flowing for these ongoing programmes Steve and his wife Dawn decided to embark on an epic journey on Royal Enfield motorbike from Kathmandu to their home town- Kendal in the UK. The journey lasted some 36 days and covered 7,460 miles which took them through Nepal, India, Pakistan, Iran, Turkey and on through Europe to Amsterdam before catching the ferry to Newcastle in the UK and finishing in Kendal.

The journey provided plenty of challenges along the way, the heat in the deserts of Pakistan and Iran being their biggest challenge. Sandstorms and high winds battered them as they made their way through the desert. The couple tells me that what sticks in their mind most though



*Personal Security the Cottams were given throughout Iran*



was the hospitality they received all along their route. Dawn further explains, "It's something we'll never forget and it really does put your faith back in human relationships." Travelling by motorbike meant that they could meet people face to face in countries like Iran and Pakistan and talk about their fears and concerns about the world situation. They were given personal security throughout the breadth of Iran which Steve thinks probably was more to keep an eye on the tourists.

Dawn explains proudly how, she herself working for a travel agent had to deal with the Turkish immigration after finding out that Steve was travelling with an expired passport. Steve in his own words explains "It's a shame that our top politicians couldn't find the time to get on their bike and experience everyday people along this route. I'm sure the world would be a safer place."

The eight month old Royal Enfield gave them no major problem until just before the finish line in Kendal when the clutch snapped. They reckon his journey went much smoother than what they had expected and they now inspire to travel around South America in their reliable motorbike- Tara.

At the present time they are working hard raising much needed funds for the Trust by giving talks about their journey. They would like to thank everyone that supported their journey through their website and all well wishers throughout the world who have supported them. They are especially grateful to Mr Puspa Nepaune and his wife Samjhana for the huge effort they put in to organise a press conference which gave them a great send off from Kathmandu and the publicity received through the Kathmandu Post. Puspa is the owner of the Shangrila Garden Restaurant in Lazimpat opposite the Japanese Embassy. Steve tells me that they would be more than happy to welcome anyone at his place who had helped him enormously.

*Istanbul- From Asia to Europe*



Steve and Dawn have been travelling to Nepal every year for the last 15 years to ensure every penny donated has been fully utilised. Our country is grateful to all well wishers like from the Sarimilla Trust who have devoted their life to help those in need. Moving to Australia has given them further opportunities and contacts to highlight more about their Trust and definitely following this epic trip they have made their Trust more popular among the Cumbrians.

*Happy and relieved reaching their hometown- Kendal*



*Sarimilla Trust would appreciate any support for the much needed unfortunate people of rural Nepal. Please visit their website [www.sarimillatrust.org](http://www.sarimillatrust.org) to follow more on their epic journey and to know about the trust or contact Steve on [steve33downunder@hotmail.com](mailto:steve33downunder@hotmail.com)*

***Pramestha Khoju-Shrestha.  
Year 7, Penglais School.  
Aberystwyth.  
Wales.***

## **Our Seasons**

Winter, a blanket of snow, not warming,  
but cooling  
Autumn, a rainbow of colours, not coming,  
but going  
Summer, an explosion of heat, not stressing,  
but calming  
Spring, the joy of new beginnings, not dying,  
but growing  
All these seasons, drifting by, not slowly,  
but quickly.

# Eighteen

Jessica Gurung, Age 16  
Hereford

I woke up that morning with a feeling that wouldn't subside. When I had rubbed all the sleep out of my eyes and pinched myself a few times the feeling still hadn't gone. It was like a dark cloud over a picture perfect scene; a mysterious, inexplicable sensation that I couldn't lay my finger on.

The bedposts creaked as I got up and my back ached from arthritis. My throat had a dusty taste, and ill-tasting fur lined my tongue. I dropped the finest china I had that same morning and as I bent down to pick up the shards, I cut myself on a sharp point. I stopped for a moment, crouched on the floor and watched the tiny bead of blood trickling down my finger. A stream of morning light lit the drop's path to freedom. That light feathery feeling it made across my skin electrified my senses. Something was different today.

Walking through the cramped hallway I passed a small square mirror perched precariously on the slanted shelf. Past the flecks of dirt I recognised my reflection. I was astounded by how the years had flown by me. They had affected me badly. My once soft skin was wrinkly and sagging over my face giving the impression I was melting. My hair was a wispy silvery grey; my eyes were bloodshot and told nothing of my former youth.

The sun burns brightly here, and the dark ravishes late at night. I live in a small shack made out of corrugated iron and bricks. The shack resides in a valley in between two massive mud hills, both a dirty khaki colour. Even past the hills, all you can see are miles of vast, barren land. A few skinny trees are scattered against the horizon, and sometimes if I get up really early I'll catch sight of birds flying overhead. They always travel in pairs; like a family. I left to clear my mind just for a while but it's almost funny; once I reached here I've never found the incentive to leave.

The drought started exactly 49 days ago. I was warned to travel to the nearest town and seek refuge till it was over but I point blank refused. I knew how to take care of myself.

A safety officer, barely twenty, had travelled from the nearby town after hearing that I was out here. He wore a dark cap and uniform. Out of the corner of his eyes he surveyed my home. Behind me the dingy hallway was swallowed by darkness.

"You live...here?" he asked tentatively, not wanting to offend.

I crossed my arms protectively and nodded stiffly.

"You're going to have to leave Mrs, erm-,"

"Miss. I'm not going anywhere."

"There's been a drought predicted and-,"

"I'm not going anywhere."

"But-,"

"I'm not going." The final tone in my voice was enough to ward the officer away.

Maybe once I could leave, but not now.

It was nearly 8 in the morning when I heard you. It was so faint that I almost missed it. I froze to the spot. With baited breath I waited for it to come again. And when it did my heart leapt. It was a deep, promising sort of rumble. The sort that scares you sometimes because you're not expecting it.

The rumble came again, this time louder. The next time it was even louder until I was sure the rumble was right outside my door. I kicked back the rickety chair and hurried in my grubby nightgown to the front of the house. I flung open the door. There was no one standing outside. No saviour, no friend.

Instead the sky had turned a dark shade of grey and purple, and the clouds were darkening. I gingerly put a foot outside, and then gradually my whole body. The ground was trembling under my feet and the sky was rumbling louder than ever.

That unexplainable feeling was closer than ever. I cast my head to the sky and then I saw it.

The first tear of the sky came tumbling towards me. Like a magnet, it sped downwards directly en route for me. Quickly, I shut my eyes tight, feeling my lashes tickle my skin. The drop exploded against my forehead and in my eyelids a secret store of memories was unlocked. It was as though someone had grasped the collar of my dress and jerked me backwards through time. All the while I kept my eyes firmly shut.

I was a child again.

*We were six when I got my first scar on my knee when you pushed me over. I wouldn't talk to you for a whole week.*

*We were nine and I beat you in the spelling test. I got ten out of ten and you got nine. I gloated and you wouldn't speak to me for the rest of the day.*

*We were twelve when we first started high school. I was bullied for having braces but you stood up for me against Stacy Price. She never bothered us again. We were sixteen when I first got my heart broken by Dave Green. I cried for a week, but you sat with me every day. You never complained once.*

*We were eighteen when I left to travel for a while. You were to stay here and take over your father's farm. I swore it was only for a year or two and I'd be back. I did come back, only you weren't there.*

When I opened my eyes, the rain was soaking the earth thirstily. The rain was so thick that it formed a curtain against my vision. Puddles formed in the ditches, and the sky growled again.

I glanced down at my hands and gasped. There were no liver spots, no varicose veins, and no wrinkles. I touched my face. It was smooth and soft. I let out another intake of breath and frantically scrabbled at my head. My hair was long again and bursting with a rich chocolate colour. My clothes were soaked, but I could still make out what I was wearing: a purple floral dress underneath a bright red cardigan. Water was swimming around my feet which now had a pair of Mary Jane shoes on.

I was wearing the same clothes the day I left to see the world. The last day I saw you.

You made this happen. You made all of this happen. I laughed for the first time in twenty one years, and the laugh wasn't of an 80 year old. It was of an eighteen year old.

It was so uncommon to me that I looked around for a moment wondering where the sound came from. I caught sight of myself in a puddle to my left and my wavy reflection made me yell in glee. I laughed again and again, dancing in the rain with my skirt billowing out from me, strands of wet hair cutting through the rain.

As quickly as it came the rain started to thin. The clouds were starting to separate and were lightening. They cast a light grey colour over the plain; the kind that reminds you a knight's shining armour. I pushed my hair back off my face, still elated with happiness. I was smiling so much my face was stinging but I didn't care.

I looked over my shoulder and I swear, *I swear*, that I saw you again.

My dear Richard.

I saw you standing there in the rain, just like I was, but you weren't wet at all. The rain almost bounced off

your aura and formed puddles around your feet. You stood there patiently with your knitted jumper and freshly pressed slacks, hands in your pockets like always. Underneath your dishevelled hair, your eyes shone brightly.

I stood rooted to the spot. I was afraid that if I moved, you would disappear. So I didn't move.

I knew I was crying but my tears were mixed with the rain that I couldn't tell where my tears started and the rain began. I was smiling and weeping at the same time, and all the while you looked at me with such warmth, that I felt my knees buckle beneath me.

For a second your lips curved into a small smile that told me everything you had wanted to say when we were eighteen; before you were taken away.

I smiled back.

Overhead, the rain stopped.

\* \* \* \* \*

***Pramestha Khoju-Shrestha.***  
***Year 7, Penglais School.***  
***Aberystwyth.***  
***Wales.***

## **Reality**

I was on my way to a gift shop when I spotted  
this castle,  
It was the average type of course; you know the  
ones made from stone,  
Except something about it was different, something  
that makes you want to explore,  
But every time I took a step closer, it seemed to be  
fading away.

I rubbed my eyes to see if I was dreaming,  
my vision was totally blurred,  
I made out that there was a river, a shimmering  
one at that,  
I walked to where I thought it was, careful with  
every step,  
I fell, opened my eyes, looked up, someone  
was there,  
Shook my head, looked back up, in front a  
beautiful mirror.

# Stroke

Dr. Shambhu N Adhikaree

Consultant Physician for Care of the Elderly and  
Lead Clinician for Stroke, Grimsby (Recently retired)

Stroke is defined as an acute focal neurological deficit resulting from cerebrovascular disease and lasting more than 24 hours.

## Main types of stroke

Cerebral infarction	85%
Intracranial haemorrhage	10%
Subarachnoid haemorrhage	5%

We should use the terminology “Brain Attack” rather than Stroke to highlight the fact that it very serious like heart attack and needs prompt admission to hospital and specialist treatment.

## Risk factors for stroke

1. Hypertension. This is the most important one as well as difficult. It is difficult because it, per se, does not cause any symptoms or signs by and large unless complication has occurred. It is for this reason, majority of cases are not detected and even when detected compliance of medication is not very good. Never the less control of Blood Pressure is of paramount importance because if not controlled the dreaded complication of Stroke can happen in as much as 40% of cases. The target level of Blood Pressure one needs to aim for is 140/85 mmhg for normal people and 130/80mmhg in diabetics.
2. Previous stroke/ TIA or a family history of stroke
3. Atrial fibrillation
4. Diabetes Mellitus
5. High Cholesterol
6. Smoking
7. Advancing age

## Size of the problem

Approximately 110,000 people in England have a stroke and another 20,000 have Transient Ischaemic Attack (TIA or Mini Stroke) every year. Stroke is the largest cause of death in England and 11% of deaths is attributed to it. Stroke is the single largest cause of adult disability. 900,000 people are living with stroke and 1/3 (300,000) of them have moderate to severe disability. 20 – 30% die within a month. 25% of stroke occurs on those under 65 years of age.

Stroke costs NHS about £ 7 billion a year - £2.8billion in direct cost, £2.4 billion for informal care provided by the family and friends and £1.8 billion in income lost to productivity and disability. People from ethnic minority like us South Asians are at a higher risk from stroke than Caucasian.

## Symptoms & signs

Full blown Stroke is obvious to everybody but the early signs especially of Transient Ischaemic attack (TIA or Mini stroke) could be misleading. Stroke Association UK has suggested people to remember FAST (Facial weakness, Arm weakness, Speech problem and Test these symptoms) as an alert to Stroke. Recognition and prompt specialist treatment is the cornerstone to beat this dreadful disease.

## History of development of care in UK

In UK stroke care did not get deserved attention in contrast to coronary heart disease. On 19<sup>th</sup> April 1997 International Stroke Unit Trialists Collaborators published a systemic review of the randomized Trials of organised in-patient (Stroke Unit) care of stroke patients (BMJ 1997;314:1151-9). The aim of the review was to define the characteristics and effectiveness of organised in-patient (Stroke Unit) care compared with conventional care (General Medical & Geriatric Wards) in reducing death, dependency and the requirement for long term institutional care and after care.

The result clearly demonstrated that Organised Stroke Unit Care resulted in long term reduction in death, dependency and the need for institutional care. The beneficial effects were independent of patient’s age, sex, or stroke severity and variations in Stroke Unit organization

In 1999 Stroke Association UK commissioned a National Survey Of Stroke Services the result of which was published by Stroke Association in a document entitled “Stroke Care \_ A Matter Of Chance “. The survey showed only 50% of stroke patients are getting the best treatment available, which is admission to Stroke Unit, unacceptable variation in access to Stroke Unit, only 3% of Consultants having special interest in stroke and lack of information generally.

They recommended:

- Urgent action by Heath Service Commissioners
- Better information and management
- Strong Medical Leadership
- New sub-speciality of Stroke Medicine

The following year, March 2000 The Intercollegiate Working Party For Stroke of Royal College Of Physicians Of London published “National Clinical Guidelines For Stroke”. The guideline encompassed all aspects of Stroke care from Service organization to support for families and carers.

Following this Dept. of Health published “National Service Framework for Older People” which included Standard Five as Stroke. The reason for including Stroke in the Framework for Older People is due to stroke being more common in the elderly although 25% of stroke happens in people below 65 years.

The standard set out for integrated stroke service included Prevention, Immediate care, Early and Continuing rehabilitation and Long term support. By and large it attested the recommendations set out in Royal College of Physicians National Stroke Guidelines including the need for stroke patients to be admitted urgently in a Stroke Unit under the Stroke Physician or Physician with an interest in Stroke and urgent referral and assessment of TIA patients including CT Scans and control of risk factors.

In 2004, New Edition of RCP London was published which suggested that TIA should be seen in Neurovascular Clinic as soon as possible but not later than 7 days and CT or MRI scan in case of stroke as soon as possible at least within 24 hours.

In March 2008 Department of Health published a document “National Stroke Strategy” to improve stroke services. It has a 10 point plan of action - Increase awareness, Preventing stroke, Involvement of all people, how to act on warnings like TIA, recognition of stroke as an emergency, stroke unit quality, rehab and community support, enable participation in community life, workforce development, development of outcome measures for service improvement.

#### Transient Ischaemic Attack (TIA or Ministroke)

Traditionally TIA has been defined as a discrete neurological deficit lasting less than 24 hours. The proposed new definition of TIA is a brief episode of neurologic dysfunction caused by focal brain or retinal ischaemia with clinical symptoms lasting less than an hour without evidence of acute infarction. In contrast, persistent clinical signs or characteristic imaging abnormalities are indicative of Stroke.

In case of Stroke “Time is Brain” as the window of time for treatment is very small. Determining which patients require emergency in-patient care and which can be managed on an outpatient basis is critical but even before this it is paramount that patients be seen urgently be it by the General Practitioner or in A & E.

Though the current recommendation in UK is to see the high risk patients within 24 hours and others within 7 days, my personal view is that if a TIA or Stroke is suspected the patient should take themselves to the A & E urgently. In many European countries every TIA is admitted directly to Stroke Unit.

Every TIA patient should have CT scan of the brain immediately or at least within 24 hours, if acceptable and antithrombotic treatments started once haemorrhage is excluded. Combined Aspirin & Dipyridamole retard is the drug of choice. Appropriate control of risk factors is paramount too.

Recent development of ABCD2 Scoring system has helped to evaluate the risk of stroke in 2 days following TIA.

#### ABCD2 Score

<u>Age:</u>	at least 60 years	=1 point
<u>Blood Pressure:</u>	Systolic BP more than 140 and/or Diastolic BP more than 90	=1 point
<u>Clinical feature:</u>		
	Unilateral weakness	=2 points
	Speech disturbance without weakness	=1 point
	Any other neurologic findings	=0 points
<u>Duration of symptoms:</u>		
	At least 60 minutes	=2 points
	10 – 59 minutes	=1 point
	Less than 10 minutes	=0 point
<u>Diabetes :</u>		=1 point

In a recent study Dr. Bimbaumer (Lancet 2007;369:283-92) validated the point system in 4809 patients and found 21% of patients who had a score of 6–7 had an 8% risk of stroke within 2 days, 45% of patients who had 4–5 points had a 4% risk of stroke in 2 days, and 34% of patients with 0–3 points had a 1% risk of stroke in 2 days.

#### **Stroke and Thrombolysis**

##### Brief history and current status

Thrombolysis is the only definitive treatment if indicated and the facility exists. The drug of choice is Tissue Plasminogen Activator (tPA) as this is the only drug which has shown improvement in mortality and reduction in disability in spite of a slight increase in haemorrhagic transformation.

Thrombolysis in Acute Ischaemic Stroke was first tried in 1958 earlier than in Myocardial Infarction. In 1960 Urokinase and Streptokinase were tried but were of no avail. 1970’s and 1980’s saw the development of CT and MRI and understanding of Ischaemic Penumbra, the mild to moderate tissue area surrounding the central Ischaemic core, which could be salvaged and this resurrected interest and further attempts at Thrombolysis.

Major Trials like MAST\_E (Multicentre Acute Stroke Trial-Europe) 1996, MAST\_I (Muticentre Acute Stroke Trial-Italy) 1995 and ASK (Australian Streptokinase Trial) 1996 within 6 hours of stroke onset and result used

Streptokinase as the thrombolytic agent. All these trials were terminated because of adverse effects. ECASS-1 (European Cooperative Acute Stroke Study) 1995 used Tissue Plasminogen Activator (tPA) within 6 hours and result showed some difference in favour of rtPA treated patients. ECASS-2 1998 which used the same agent within the same time showed no significant difference. NINDS (National Institute of Neurological Disorder) rtPA trial, which can be called the landmark trial in 1995 used again Tissue Plasminogen Activator but within 3 hours of stroke onset. The result showed benefit for all outcome measures at 3 months, at least 30% improvement in the degree of disability and small reduction in mortality. Atlantis' 1999 used Alteplase between 3 – 6 hours. The result did not support treatment beyond 3 hours. Currently ECASS iii (European cooperative acute stroke study-iii) is experimenting the use of tPA between 3 – 4 hrs. Result is eagerly awaited.

Thrombolysis should be feasible in any district general hospital as shown by the experience of thrombolysing in OSF Stroke Network which showed that tPA can be administered safely with good outcome at community and rural hospitals (Stroke 2000; 31(1): 77-81

The question upto what age tPA should be used was answered by a retrospective survey carried out by Tanne D et al in 189 patients aged 80 and over in 13 hospitals in USA. Though there was insignificant increase in Intracerebral haemorrhage and tendency of higher in hospital mortality favourable outcome as determined by NIHSS (National Institute of health stroke scale) and modified Rankin Scale was obvious. They concluded

that there is no evidence to withhold tPA treatment for Acute Ischaemic Stroke in appropriately selected patients aged 80 years or over.

In UK prior to initiating Thrombolysis, Specialist Staff should undergo training and have to register with UK "Safe Implementation of Thrombolysis in Stroke Monitoring Study Programme (SITS-MOST)".

It is paramount important that all cases are admitted to Stoke Unit.

CT or MRI done immediately to exclude haemorrhage

If the Stroke occurred within 3 hours, necessary steps to thrombolysed the patient should be taken. If over 3 hours, once haemorrhage has been excluded, the patient should be started on secondary prevention regime. Combined Aspirin & Dipyridamole Retard is advised.

All new stroke patients should be admitted in high dependency bay in Stroke Unit with all the monitoring facilities, routine investigations taken and Stroke Registry completed. Swallowing assessment carried out and rehabilitation started by Multidisciplinary Team.

Main obstacle in successful thrombolysis in stroke has been a small window (3 hours) and stroke patients not reaching hospital within this period. Attempts to extend the window have not been successful because of complications. As mentioned above, currently ECASS iii (European cooperative acute stroke study-iii) is experimenting the use of tPA between 3 – 4 hours.

## Endoscopic therapy for bleeding gastric varices: A sticky issue

Dhiraj Tripathi, Consultant Hepatologist  
Liver Unit, University Hospital Birmingham NHS Foundation Trust  
Email: tdrdhir@aol.com

There have been significant advances in the management of bleeding oesophageal varices in the last two decades, and a resultant reduction in the mortality (1). Most gastroenterologists are comfortable treating such patients, and there have been recent detailed guidelines on their management published (2). However, the optimal therapy for bleeding gastric varices (GV) remains a controversial topic. Sarin (3) defined four subtypes of GV (Figure 1). Gastro-oesophageal varices (GOVs) are associated with oesophageal varices along the lesser curve (type 1, GOV1), or along the fundus (type 2, GOV2). Isolated gastric varices (IGVs) are present in isolation in the fundus (IGV1) or at ectopic sites in the stomach or the first part of the duodenum (IGV2). GOV1

are responsible for 70% of GV, and can be managed like oesophageal varices. It is for the other types where the clinician is faced with a number of choices.

When considering therapies for bleeding GV, it is important to highlight some important differences between gastric and oesophageal varices. Gastric varices are present deep in the submucosa and are principally supplied by the left gastric, short gastric and polar vein. Oesophageal varices that are most likely to bleed are present in the lamina propria and compose of perforator vessels linking the internal and extrinsic oesophageal veins. Thus GV are true veins and have a larger diameter. This can lead to greater wall tension (WT), where  $WT = \text{Pressure} * \text{radius} / \text{wall thickness}$ . This may also

explain why GV can bleed at lower pressures than oesophageal varices, since bleeding occurs once wall tension exceeds the elastic limit of the vessel (4). It has also been reported that patients with large GV have a lower portal pressure than those with oesophageal varices (5-7) possibly as a result of the development of gastro-renal porto-systemic shunts (8), or reduced portocollateral resistance (8). The incidence of bleeding from GV is half that of oesophageal varices, although the severity of bleeding is frequently worse particularly for IGV1 type varices, with increased mortality and transfusion requirements (3;9).

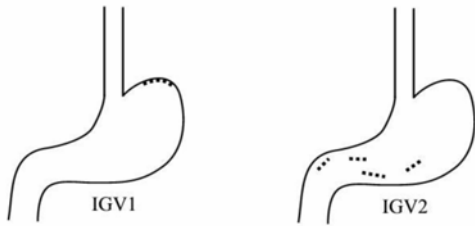
The lack of high quality randomised studies for the management of bleeding GV is perhaps as a result of the reduced frequency of gastric variceal bleeding, and difficulty in recruiting sufficient number of patients. Currently there is no evidence to support primary prevention and limited evidence on the prevention of gastric variceal rebleeding. The use of sclerotherapy has been reported to control bleeding in over 66% of patients, and is best used for patients with GOV1. However, most of the studies report high rebleeding rates of 50-90% (10-12). This technique is limited by the adverse safety profile, in particularly sclerotherapy induced ulceration which has resulted in 2 fatalities in the literature. Variceal band ligation is currently standard therapy for bleeding oesophageal varices, and a similar technique has been used with success particularly for GOV1 (13). The high rate of initial hemostasis achieved in randomised controlled trials is not matched by the rates of rebleeding, reported at 44 – 54%. Detachable snares may have a role for larger (>2 cm) GV with reports of 83% success in hemostasis, 92% eradication, and a rebleeding rate of just 11% (14). Clearly success is operator dependent and the technique is unlikely to have a role in actively bleeding varices. Local complications include ulceration(13) and even gastric perforation (15;16). The latter complication is very rare with oesophageal variceal band ligation, since only the mucosa and submucosa are ligated.

The above treatment modalities have a role for both oesophageal and GV, and a recurring theme is the difficulty in managing IGV1. Currently the two endoscopic therapies developed specifically for gastric variceal bleeding are tissue adhesives and thrombin. Cyanoacrylate (N-butyl-2- cyanoacrylate, “glue”) undergoes rapid polymerisation upon contact with living tissues. Careful attention to technique is necessary to prevent damage to equipment from polymerisation, and inadvertent adhesion of the injection needle to the varix. The majority of the evidence for the use of cyanoacrylate in gastric variceal bleeding comes from studies based in Japan, USA, India and Europe, which report good initial hemostasis rates of over 90% (17-23). Two randomised controlled trials have compared cyanoacrylate with VBL

(13;24), with mixed results for initial hemostasis, although the outcome was in favour of cyanoacrylate for rebleeding rates (22% versus 44%, and 31% versus 54%)(13;24). There was no difference in mortality. Complications are mainly thrombotic in nature with case reports of cerebral stroke, portal vein embolisation, splenic infarction, coronary emboli, and a series demonstrating non-fatal pulmonary emboli in 4.6% of cases (25-28). Enthusiasm for tissue adhesives is likely to be dampened by a recent randomised trial comparing TIPSS with cyanoacrylate for prevention of gastric variceal rebleeding in cirrhotic patients (29). The rebleeding rates were significantly lower for TIPSS (11% versus 38%), although survival was similar in both groups.

*The latest addition to the endoscopists' armour in the battle to control bleeding GV is thrombin. Thrombin is a haemostatic agent first used for the management of GV in 1947 (30). Bovine thrombin was originally used, but owing to the increased risks of prion transmission, human thrombin has been adopted. Thrombin principally affects hemostasis by converting fibrinogen to a fibrin clot. Thrombin has other effects on hemostasis such as platelet aggregation. In rare cases where there is a primary clotting disorder resulting in the absence of fibrinogen, thrombin will fail to clot blood. A 5 mL solution of thrombin containing 1000 units/mL of thrombin will clot a litre of blood in under 60 seconds. A standard gastroscope is used to identify the bleeding varix, but in severe cases, a therapeutic scope with twin channels permits better views, and facilitates the removal of any clots if required. No special preparation is required.*

There are 7 uncontrolled studies investigating the use of thrombin for gastric varices (31-37), with 2 in abstract form only (33;35), involving more than 200 patients. Initial studies by Williams and colleagues in an uncontrolled series of 11 consecutive patients using bovine thrombin resulted in 100% success initial control of gastric variceal bleeding, and a rebleeding rate of 27% (36). The patients had predominantly viral hepatitis, and bleeding fundal varices. The average dose of thrombin required for each patient was 5.5 mL (5500 U/mL) per session. Another study published in abstract form examined the efficacy of bovine thrombin injections in patients who had gastric and oesophageal variceal bleeding refractory to injection sclerotherapy (35). Effective hemostasis was achieved in 96% of patients, with no evidence of thromboembolic complications or allergic reactions. In a larger study, Przemioslo and colleagues studied bovine thrombin in 52 patients who presented with solely bleeding GV (63%), or bleeding from both gastric and oesophageal varices (37%)(34). The average dose of thrombin used was 10.7 mL (100 IU/mL) for the first session. Bleeding oesophageal varices were treated with thrombin



sclerotherapy and variceal band ligation (VBL). Initial hemostasis was achieved in 94% of patients, with rebleeding of 18%. There were no complications reported. This study was limited by the relatively short follow up period, and the use of patients with both gastric and oesophageal variceal bleeding.

Another uncontrolled study retrospectively evaluated the use of human thrombin in 12 patients with portal hypertension resulting in gastric variceal bleeding, with none having bled from oesophageal varices (37). Using an average dose of 1833 IU, immediate hemostasis was achieved in all patients where there was active bleeding from GV at the time of endoscopy (n = 6). In the remainder, there were stigmata of recent bleeding. There were no immediate allergic reactions or thromboembolic complications, although one patient bled from a varix after withdrawal of the needle following thrombin administration. The bleeding resolved spontaneously, with no further rebleeding. Thrombin was used successfully in four patients where attempts at TIPSS insertion were unsuccessful. The overall rebleeding rate was 25%. These findings have been supported by a recent retrospective series published in abstract form involving 33 patients with bleeding GV, where 100% hemostasis was achieved (33). A noteworthy finding in this study was the rebleeding rate of just 11% despite variceal eradication achieved in just 6% of patients. There have been two recent uncontrolled series looked at the role of Beriplast-P (human thrombin) in patients with bleeding GV. This preparation has two constituents, the first being fibrinogen and factor XIII and the second containing human thrombin. The constituents are injected into the bleeding varix through a double lumen syringe, immediately forming a fibrin clot. Henegan and

colleagues studied 10 patients presenting with acute gastric variceal bleeding (32), using a median dose of 6 mL. Immediate hemostasis was achieved in 7 patients, with no rebleeding from GV over a relatively short follow up period of 8 months. However, five patients (50%) rebled from oesophageal varices, and the overall mortality rate was high at 50% principally from variceal bleeding and multiorgan failure. The second study included 15 patients, with the follow up even shorter at 30 days (31). The volume of Beriplast was 4.5 - 6 mL, with the higher volume used for fundal varices. Initial hemostasis was achieved in 14 patients, and the 30 day mortality was 7%, although it should be noted that there were fewer patients with advanced liver disease than in the former study (32). There were no complications related to the procedure or systemic activation of the clotting system such as distant embolisation.

So what can we interpret from these results? Firstly the data on thrombin is based on uncontrolled studies, so making comparisons with efficacy of tissue adhesives is not possible. However, the data are very convincing. The very high rates of hemostasis and the low rate of rebleeding is similar to TIPSS for GV (7). Another important distinction is the technical ease of thrombin injections. There is no additional preparation required, and this is particularly important in the context of acute variceal bleeding. The lack of availability of suitably trained staff for the use of tissue adhesives is a major limitation of the technique. The use of endoscopic ultrasound may assist in accurate location of varices and dose adjustment of thrombin injection by demonstrating flow in varices. Thrombin injection therapy has the potential to be a "one step" procedure without the need for repeated injections, although this requires further study. The lack of adverse events with thrombin is perhaps the most important benefit of thrombin over other techniques.

Therefore, thrombin is a very promising therapy for bleeding GV, being easy to use with an enviable safety profile. Further controlled studies comparing it with other treatment modalities are urgently required before it can be universally recommended.

#### Reference List

- (1) Carbonell N, Pauwels A, Serfaty L et al. Improved survival after variceal bleeding in patients with cirrhosis over the past two decades. *Hepatology* 2004;40(3):652-9
- (2) Garcia-Tsao G, Sanyal AJ, Grace ND et al. Prevention and management of gastroesophageal varices and variceal hemorrhage in cirrhosis. *Hepatology* 2007;46(3):922-38.
- (3) Sarin SK, Lahoti D, Saxena SP et al. Prevalence, classification and natural history of gastric varices: a long-term follow-up study in 568 portal hypertension patients. *Hepatology* 1992;16(6):1343-9.
- (4) Polio J, Groszmann RJ. Hemodynamic factors involved in the development and rupture of esophageal

varices: a pathophysiologic approach to treatment. *Semin Liver Dis* 1986;6(4):318-31.

(5) Chao Y, Lin HC, Lee FY et al. Hepatic hemodynamic features in patients with esophageal or gastric varices. *J Hepatol* 1993;19(1):85-9.

(6) Stanley AJ, Jalan R, Ireland HM et al. A comparison between gastric and oesophageal variceal haemorrhage treated with transjugular intrahepatic portosystemic stent shunt (TIPSS). *Aliment Pharmacol Ther* 1997;11(1):171-6.

(7) Tripathi D, Therapondos G, Jackson E et al. The role of the transjugular intrahepatic portosystemic stent shunt (TIPSS) in the management of bleeding gastric varices: clinical and haemodynamic correlations. *Gut* 2002;51(2):270-4.

(8) Watanabe K, Kimura K, Matsutani S et al. Portal hemodynamics in patients with gastric varices. A study in 230 patients with esophageal and/or gastric varices using portal vein catheterization. *Gastroenterology* 1988;95(2):434-40.

(9) de Franchis R, Primignani M. Natural history of portal hypertension in patients with cirrhosis. *Clin Liver Dis* 2001;5(3):645-63.

(10) Jalan R, Hayes PC. UK guidelines on the management of variceal haemorrhage in cirrhotic patients. *British Society of Gastroenterology. Gut* 2000;46 Suppl 3-4:III1-III15.

(11) Sarin SK, Lahoti D. Management of gastric varices. *Baillieres Clin Gastroenterol* 1992;6(3):527-48.

(12) Sarin SK. Long-term follow-up of gastric variceal sclerotherapy: an eleven-year experience. *Gastrointest Endosc* 1997;46(1):8-14.

(13) Lo GH, Lai KH, Cheng JS et al. A prospective, randomized trial of butyl cyanoacrylate injection versus band ligation in the management of bleeding gastric varices. *Hepatology* 2001;33(5):1060-4.

(14) Lee MS, Cho JY, Cheon YK et al. Use of detachable snares and elastic bands for endoscopic control of bleeding from large gastric varices. *Gastrointest Endosc* 2002;56(1):83-8.

(15) Chen WC, Hou MC, Tsay SH et al. Gastric perforation after endoscopic ligation for gastric varices. *Gastrointest Endosc* 2001;54(1):99-101.

(16) Takeuchi M, Nakai Y, Syu A et al. Endoscopic ligation of gastric varices. *Lancet* 1996;348(9033):1038.

(17) Akahoshi T, Hashizume M, Shimabukuro R et al. Long-term results of endoscopic Histoacryl injection sclerotherapy for gastric variceal bleeding: a 10-year experience. *Surgery* 2002;131(1 Suppl):S176-S181.

(18) Dhiman RK, Chawla Y, Taneja S et al. Endoscopic sclerotherapy of gastric variceal bleeding with N-butyl-2-cyanoacrylate. *J Clin Gastroenterol* 2002;35(3):222-7.

(19) Greenwald BD, Caldwell SH, Hespeneide EE et al. N-2-butyl-cyanoacrylate for bleeding gastric varices: a United States pilot study and cost analysis. *Am J Gastroenterol* 2003;98(9):1982-8.

(20) Iwase H, Maeda O, Shimada M et al. Endoscopic ablation with cyanoacrylate glue for isolated gastric variceal bleeding. *Gastrointest Endosc* 2001;53(6):585-92.

(21) Kind R, Guglielmi A, Rodella L et al. Bucrylate treatment of bleeding gastric varices: 12 years' experience. *Endoscopy* 2000;32(7):512-9.

(22) Ramond MJ, Valla D, Mosnier JF et al. Successful endoscopic obturation of gastric varices with butyl cyanoacrylate. *Hepatology* 1989;10(4):488-93.

(23) Sheikh RA, Trudeau WL. Clinical evaluation of endoscopic injection sclerotherapy using N-butyl-2-cyanoacrylate for gastric variceal bleeding. *Gastrointest Endosc* 2000;52(1):142-4.

(24) Tan PC, Hou MC, Lin HC et al. A randomized trial of endoscopic treatment of acute gastric variceal hemorrhage: N-Butyl-2-Cyanoacrylate injection versus band ligation. *Hepatology* 2006;43(4):690-7.

(25) Roesch W, Rexroth G. Pulmonary, cerebral and coronary emboli during bucrylate injection of bleeding fundic varices. *Endoscopy* 1998;30(8):S89-S90.

(26) Hwang SS, Kim HH, Park SH et al. N-butyl-2-cyanoacrylate pulmonary embolism after endoscopic injection sclerotherapy for gastric variceal bleeding. *J Comput Assist Tomogr* 2001;25(1):16-22.

(27) Palejwala AA, Smart HL, Hughes M. Multiple pulmonary glue emboli following gastric variceal obliteration. *Endoscopy* 2000;32(1):S1-S2.

(28) Yu LK, Hsu CW, Tseng JH et al. Splenic infarction complicated by splenic artery occlusion after N-butyl-2-cyanoacrylate injection for gastric varices: case report. *Gastrointest Endosc* 2005;61(2):343-5.

(29) Lo GH, Liang HL, Chen WC et al. A prospective, randomized controlled trial of transjugular intrahepatic portosystemic shunt versus cyanoacrylate injection in the prevention of gastric variceal rebleeding. *Endoscopy* 2007;39(8):679-85.

(30) Daly PM. Use of buffer thrombin in treatment of gastric varices: A preliminary report. *Arch Surg* 1947;55:208-12.

(31) Datta D, Vlavianos P, Alisa A et al. Use of fibrin glue (beriplast) in the management of bleeding gastric varices. *Endoscopy* 2003;35(8):675-8.

(32) Heneghan MA, Byrne A, Harrison PM. An open pilot study of the effects of a human fibrin glue for endoscopic treatment of patients with acute bleeding from gastric varices. *Gastrointest Endosc* 2002;56(3):422-6.

(33) McAvoy NC, Hayes PC. The use of human thrombin for the treatment of gastric and ectopic varices. *Gut* 2006;55(11):A5.

(34) Przemioslo RT, McNair A, Williams R. Thrombin is effective in arresting bleeding from gastric variceal hemorrhage. *Dig Dis Sci* 1999;44(4):778-81.

(35) Snobl J, Van Buuren HR, Van Blankenstein M. Endoscopic injection using thrombin: An effective and safe method for controlling oesophagogastric variceal bleeding. *Gastroenterology* 1992;102:A891 (abstract).

(36) Williams SG, Peters RA, Westaby D. Thrombin— an effective treatment for gastric variceal haemorrhage. *Gut* 1994;35(9):1287-9.

(37) Yang WL, Tripathi D, Therapondos G et al. Endoscopic use of human thrombin in bleeding gastric varices. *Am J Gastroenterol* 2002;97(6):1381-5.

# Can Nepal have a Renal Transplant Programme soon?

Pukar Shrestha

Freeman Hospital, Newcastle upon Tyne

Recent visit of The Freeman Hospital Renal Transplant Team to Nepal in March 2008 has explored the possibility of a Renal transplant programme in Nepal. The Freeman team was comprised of Prof. D. Talbot, Mr. D Rix and Mr. P Shrestha and had an opportunity to meet Transplant experts from Nepal and other foreign countries who had gathered in Kathmandu to attend the South Asian Conference of Nephrologists, Urologists and Transplant surgeons (NUTS).

The Nepalese team had worked hard to bring this international community together in Kathmandu. Dr. Sudha Khakurel from Bir hospital, Dr. Rishi Kumar Kafle from National Kidney Foundation and Dr. Dibya Singh from TU Teaching hospital (TUTH) were the nephrologists in the country who played key roles in organizing the South Asian conference of NUTS in Kathmandu. Prof. Bholu Raj Joshi, from TUTH and Dr. Bishwo Raj Joshi from Bir hospital were the urologists who facilitated the meeting. The Freeman team along with Prof. David Francis from Melbourne, Australia, Prof. S. Guleria from AIIMS, New Delhi, India and many other transplant surgeons and physicians from different countries had extensive discussions with the Nepalese counterparts about the transplant programme in Nepal.

The team had held a series of meetings with Prime Minister Girija Prasad Koirala, Speaker of Interim Parliament Subhash Nembang, Health minister Giriraj Mani Pokhrel, Supreme court Justice Kalyan Shrestha and MP Radheshyam Adhikari. The team also had an informal meeting with UNDP Nepal country director Ms. Anne-Isabelle Degryse-Blateau and other UN officials.

Bir Hospital and TU Teaching hospital have been identified as potentially suitable places for possible transplantation in the country, the former being recognized and licensed by the government to start the programme. However the Freeman team, after extensive study and onsite inspection, has made the recommendation that a developing country like Nepal should start and establish the transplant programme in one unit only due to the cost factor, lack of resources and instruments and high maintenance cost for such a programme..

Freeman transplant team was highly impressed and encouraged to extend its support to the Nepalese Transplant community to initiate the service as early as possible. However, the team has emphasized the need for proper minimal infrastructure set up, reform outstanding legal issues and ensure financial support for continuous supply of immunosuppressants and other medications vital to transplantation for the long term success of the programme. The team has already submitted its recommendations to the Nepalese Transplant team and is expecting Nepal government and the local transplant team to take necessary steps before actually starting the transplant.

The Freeman Hospital Transplant team is keenly looking forward to visiting Nepal again to help start the programme in the near future. Likewise other NDA UK members Mr. Badri Man Shrestha (Consultant Transplant Surgeon), Dr. Sarju Shrestha (Nephrologist) and Dr. Ramesh Khoju (Consultant Anaesthetist) are also determined to go to Nepal to help start the programme.

**Prof D Talbot and Mr Rix with Prime Minister Girija Prasad Koirala and Subash Nembang**



# The best lab marker for bone metabolism: a review

Roshan Lal Shrestha,  
Newcastle Upon Tyne

## Introduction: Bone

Bone is a rigid organ considered as supportive connective tissue. It forms a part of endoskeleton of the vertebrates. It has multiple functions. Some of them to mention are protection of the internal organs (skull protects brain, ribs protect heart and lungs etc.), framing of the body, production of blood cells through the marrow present in the medullary cavity of the long bones, storage of the minerals (esp. calcium and phosphorus), movements etc. Since bone is considered as connective tissue, it also consists of cells and extra cellular matrix.

There are the different types of cells constituting the bones: Osteoblasts, Osteocytes and Osteoclasts. Osteoblasts are the bone forming cells that come down from Osteoprogenitor cells. They make bone forming unit called Osteon which is primarily composed of Type I collagen. Additionally, Osteoblasts are also responsible for the manufacture of hormones such as Prostaglandins, enzymes such as Alkaline Phosphatase and many matrix proteins. Osteocytes originate from Osteoblasts which is found surrounded by bone matrix. The space occupied by them is known as Lacunae. Their main functions include formation of bone, maintenance of matrix and calcium homeostasis. Osteoclasts are cells responsible for bone resorption. They are derived from the monocyte stem cells so they have the ability of engulfment as macrophages. They secrete enzymes such as Tartrate Acid Phosphatase (Bone).

The extracellular matrix can be divided into organic matrix and inorganic matrix. The organic matrix constitutes 40 % of total extracellular matrix and it is composed of the collagen fibres and ground substances including Proteoglycans, Osteocalcin/ Osteonectin and growth factors/ cytokines /Osteon. Inorganic matrix constitutes 40% of the total extra cellular matrix and mainly composed of calcium and phosphate complex in the form of hydroxyapatite [Ca-10-(PO<sub>4</sub>)-6-(OH)-2] ([http:// www.sprojects.com](http://www.sprojects.com)).

## Bone metabolism:

There is a misconception that once the bone is developed it stops growing or developing. But in fact bone is a dynamic tissue that is remodelled continuously throughout life. Bones are continuously growing through the process of resorption and deposition. This process is called Bone metabolism. The cells Osteoclasts, Osteoclasts and Osteocytes are responsible for it. Osteoblasts initiate bone formation; Osteocytes control the mechanical stress on the bone and Osteoclasts resorb bone (Fig. 1) (Valsamis, *et al.*, 2006).

Bone formation starts with the normal process of matrix degradation mediated by Osteoclasts and organic matrix deposition by Osteoblasts which is followed by the process of mineralization (Holick and Krane, 2001). Bone formation and resorption are the normal regular processes which should take place for bone metabolism and there should be balance between these processes for normal bone density. Bone density helps to determine the thickness of bone in diseased condition. It is a marker for measuring bone mass and bone strength. In old aged people the bone resorption exceeds the bone formation. This leads to decreased bone density.

## Diseases related to bone metabolism:

Metabolism of bone is important for the proper functioning of the skeletal system. Sometimes bone metabolism can be disrupted in different ways that result in the varieties of bone diseases that damage the skeleton later in life. Besides these conditions there are few other diseases that indirectly affect the bone by interfering mineral metabolism. Among the diseases related to bone metabolism, Osteoporosis and Paget's disease are the most common.

Osteoporosis is a condition in which the balanced process of bone formation and bone resorption is lost. This leads to more breaking down of bone than formed and the bone becomes very weak and more like to fracture or break. This condition is more common in post menopausal women and in some older men. Paget's disease is opposite of Osteoporosis. It is also called Ostitis deformans. It is a disease of Osteoclasts, characterised by excessive bone formation leading to the bone pain, bone deformity and skeletal fragility ([www.kumc.edu](http://www.kumc.edu), 2008).

## Laboratory markers for bone metabolism:

Numbers of biochemical markers are available which can be measured that reflect the overall rate of bone metabolism. The biochemical markers can be divided into two: markers of bone formation derived from Osteoblasts and markers of bone resorption representing degraded products of Osteoclastic activities (Valsamis, *et al.*, 2006). Biochemical markers that represent Osteoblasts and bone formation are Alkaline Phosphatase (ALP) and Osteocalcin. Their levels correlate the rate of bone formation. Different biochemical markers are available for the Osteoclastic activities and bone resorption. Parathyroid hormone (PTH) and Vitamin D (Vit D) are the major markers of bone resorption as they play important role in development and maintenance of bone mass by maintaining calcium and phosphate

homeostasis and modulating Osteoclastic activities (Holick & Krane, 2001). High level of PTH, termed as Hyperparathyroidism is a compensatory response to decreased level of Calcium (Hypocalcaemia) that activate Osteoclastic bone resorption to maintain normal level of calcium. Deficiency of Vit D may have adverse affect on mineralisation of bone matrix which lead to low bone density and fracture (Holick, 2003; National Osteoporosis Foundation, 1998).

Thus ALP, Osteocalcin, PTH, Calcium and Phosphorus are the major biochemical markers for the bone metabolism. Besides these, Type I procollagen C-terminal peptide is another circulating marker of bone formation. Hydroxyproline, hydroxylysine and hydroxypyridinium are urinary markers of bone resorption. Some indirect parameters for bone metabolism are Estrogens, Androgens, Tumour Necrosis Factor (TNF) and Insulin like Growth Factor (IGF)-I and II. However these bone markers are physiologically elevated during growth period.

### **Best markers for bone metabolism in clinical chemistry laboratory:**

#### **1. Alkaline Phosphatase (ALP):**

Serum ALP is the most common biochemical marker for the bone metabolism. Bone ALP is one of the isoenzymes of the total ALP which is produced by bone. So it is the specific marker for the bone diseases. It reflects the increased activities of Osteoblasts. But in comparison to total ALP and Bone ALP, the former is more commonly used in clinical chemistry laboratory as the marker for the bone disease.

The primary importance of measuring total serum ALP is to rule out the bone and liver diseases. Its elevated level either shows abnormalities in Liver or shows rapid growth of bone as it is produced by Osteoblasts. Its increased level along with abnormal calcium and phosphorus levels confirm the diseases related to bone metabolism, such as Paget's disease, Osteomalacia, Hyperparathyroidism, Hypophosphatemia, Osteoporosis etc. ([www.labtestonline.com](http://www.labtestonline.com) 2007). Though not used much clinically, there are lots of studies done on Bone ALP. Wang, *et al.* (2008) did a study on Bone ALP, N-terminal midfragment of Osteocalcin and serum C-terminal telopeptide of Type I collagen as parameter of bone turnover in patients with primary bone tumours. The study concluded that high serum Bone ALP level was valuable for the diagnosis of adult Osteosarcoma in comparison to rest of the markers but it is not advised to use Bone ALP as a parameter for differential diagnosis in the teenage patients as it is also affected by age, pubertal stage and growth velocity. So there was controversy regarding the reference range of Bone ALP for the adolescent patients. So many further studies were

done on Bone ALP and other bone markers in infants, children and adolescents and found that the reference values should be changed accordingly. It was found that all the bone markers varied with age and pubertal stage.

Thus there is strong correlation between them and the bone markers esp. Bone ALP and Osteocalcin. The results of these studies will be useful in the diagnosis and monitoring of the therapy in metabolic bone diseases and will contribute to the establishment of reference values in the normal individuals according to their age, puberty and growth (Tommasi, Bacciottini, & Bennci, 1996; Rauchenzauner, *et al.*, 2007). There are two methods available for Bone ALP determination: one is measurement of enzyme activity and another is estimation of enzyme concentration. A study (Avbersek-Luznik, Stoper & Marc, 2007) was done to compare the effectiveness of these two methods but did not show any differences between the clinical utilities of both of them and also showed that Bone ALP along with serum C-terminal telopeptide cross links of type I collagen (CTx) might be useful as early markers of higher bone turnover.

Thus if the reference ranges are taken into account according to age, puberty and growth velocity, the value of serum ALP can be used as one of the best markers for the metabolic bone diseases but it should be kept in mind that serum total ALP should be correlated with the value of Calcium and Phosphorus; Aspartate Transaminase (AST) and Alanine Transaminase (ALT) and pregnancy condition as other sources of ALP are liver and placenta besides the bones.

#### **2. Osteocalcin:**

Osteocalcin, also known as Gammacarboxyglutamic acid (Gla) protein is another marker of bone formation. It is produced almost exclusively by the Osteoblasts thus its measurement is highly specific for bone formation. It circulates in blood as intact molecule, a large N-terminal fragment and three small fragments (Gla residues). The study (Szuk, *et al.*, 1993) showed that the high undercarboxylated form of Osteocalcin (UcOc) level was elevated in elderly women compared to young, healthy, premenopausal ones and also found that they had lower bone mass and thus there was six fold increases in risk of femur neck fracture in women with elevated UcOc. Moreover the studies showed that in postmenopausal women Vitamin K-supplementation increased the serum markers for the bone formation (Osteocalcin and Bone ALP), and decreased the urinary excretion of Hydroxyproline (urinary marker for bone resorption) and calcium (reviewed in Knapen, Eisenwiener & Vermeer, 1998). However the study revealed that neither serum Osteocalcin nor urinary excretion of Hydroxyproline were not useful in the diagnosis of the bone disease of prematurity (Rigu, *et al.*, 2000).

The main part of Osteocalcin is bound to the hydroxyapatite matrix of bone; only about 20 % is set free in the blood, where it is available for detection by immunoaffinity techniques. Thus quantitative measurement of Osteocalcin is used clinically as one of the best markers for the metabolic bone diseases. However the quality of the quantitative result of it in laboratory depends on the ability of antibodies used to specifically measure Osteocalcin, to detect the different fragments of it (Delmos, 1993).

### **3. Parathyroid Hormone (PTH):**

Parathyroid hormone is another metabolic bone marker which is commonly used in clinical chemistry laboratory. It is secreted by the parathyroid gland and acts to increase the concentration of calcium in the body by releasing it from the large reservoir contained in blood (Patiff, 2003). The main functions of PTH are mobilization of Calcium from bone, enhancing absorption of Calcium from small intestine and suppression of Calcium loss in urine. Thus the level of PTH represents the activities of Calcium and Osteoclasts, as the Osteoclasts' one of the functions (bone resorption) is indirectly stimulated by PTH. Since Calcium is one of the factors of bone metabolism and as the value of PTH helps to evaluate the cause of an abnormal blood calcium level, it is one of the major markers for metabolic bone disease. It is also related with the elevation of the bone resorption marker, decreased bone mineral density, cortical thickening and an increase of vertebral fracture risk. It is also believed that PTH is responsible in the pathogenesis of Glucocorticoid-induced Osteoporosis (GIO) (Kaji, *et al.*, 2007).

It is advised that esp. in case of Paget's disease, the PTH level should be included as biochemical screening marker. Different studies have done to see the correlation between PTH and Paget's disease and found that approximately 12-18% of patients with Paget's disease have elevated levels serum PTH, most of which represent secondary hyperparathyroidism (Tucker, 2006). PTH level is also used in another abnormality of bone called Renal Osteodystrophy (ROD). It is a characteristic abnormality of bone metabolism in patients with Haemodialysis (HD). Adynamic bone disease (ABD), Osteomalacia and Osteitis Fibrosa are subtypes of ROD. It is characterised by the lower level of plasma PTH level esp. in diabetic nephropathy patients as diabetes mellitus itself is an important factor affecting bone metabolism and is usually associated with Osteoporosis due to Osteoblastic dysfunction (Inaba, 2001). It was also found that the PTH level was lowered in patients with ABD. The level was significantly lowered than those noted in renal failure patients with other types of ROD (Couttenye, *et al.*, 1996).

The studies also showed that there was good correlation between the serum Bone ALP and plasma PTH level,

and their combined report helps to suggest some disorders in the interaction between the Osteoblasts and Osteoclasts (Takahashi, *et al.*, 2007). Thus PTH is also one of the important biochemical markers that can be used in clinical chemistry laboratory for the metabolic disorder of the bone.

### **4. Calcium and Phosphorus:**

Calcium and Phosphorus are important to keep bones and teeth strong. Both of them are important markers for the metabolic bone diseases. Serum calcium and urinary calcium are good markers which are likely to improve the assessment of the complex and subtle abnormalities of bone metabolism that characterise metabolic bone diseases. Serum calcium and Phosphorus levels along with serum ALP are important for the diagnosis of metabolic bone diseases of prematurity also. The typical biochemical pattern in this disease shows normal serum calcium, low serum phosphorus and high serum ALP levels. In this case urinary phosphate excretion is typically low or absent while urinary calcium excretion increases as the serum phosphate decreases (Sharp, 2007). The serum calcium level was also found to be important after kidney transplantation as its high level after kidney transplantation shows the increased activity of bone resorption. A study done by Barchhardt, *et al.*, (2007) concluded that high serum calcium level in patients with post transplant hyperparathyroidism could be associated with high or low turnover bone diseases.

### **Conclusion:**

Though there are number of biochemical markers available for the metabolic bone diseases, only a few are commonly used clinically. Only one parameter can not be taken into account as the best marker for the bone metabolism. There should be correlation between more than two parameters. For example, Total serum ALP level alone may not be reliable marker for bone metabolism as its one of the isoenzymes is produced by the liver. So the level of total serum ALP level should be correlated with the levels of calcium and phosphorus to differential diagnosis between the liver and bone diseases. Similarly, Osteocalcin level should be correlated with the level of Bone ALP for proper diagnosis of diseases related to bone formation. So in my opinion total serum ALP (or Bone ALP), Osteocalcin, PTH, calcium and phosphorus should be used in a clinical chemistry laboratory as package parameters for metabolic bone diseases. However other markers such as urinary markers (Hydroxyproline, Hydroxylysin etc), Vit D, indirect markers (Estrogens, IGF I and II) etc can be used only of special cases.

### **References:**

Avbersek-Luznik, I., Stoper, T.G. & Marc, J. (2007) 'Activity of mass concentration of bone- specific Alkaline Phosphatase as a marker of bone formation', *Clinical Chemistry and Laboratory Medicine*, 45 (8), pp. 1014-1018.

- Barchhardt, *et al.*, (2007) 'Low turnover bone disease in hypercalcemic hyperparathyroidism after kidney transplantation', *American Journal in Transplantation*, 7 (11), pp. 2515-2521.
- Bone, no date. Available at: <http://en.wikipedia.org/wiki/bone> (Accessed: 10<sup>th</sup> January 2007)
- Couttenye, M. H. *et al.* (1996) 'Low serum levels of Alkaline Phosphatase of bone origin: a good marker of Adynamic bone disease in haemodialysis patients', *Nephrology Dialysis Transplantation*, 11, pp. 1065-1072.
- Delmas, P. D. (1993) 'Biochemical markers of bone turnover. Theoretical consideration and clinical use in Osteoporosis', *American Journal of Medicine*, 95 (5), pp. S11-S16.
- Holick, M.F. & Krane, S.M. (2001) 'Introduction to bone and mineral metabolism', in Eugene, B., Fauci, A., Kasper, D., Hauser, S., Longo, D. & Jameson, J.L. (ed) Harrison's principles of Internal medicine 15<sup>th</sup> edition. New York: Mc Graw Hill, pp. 2192-2194.
- Holick, M.F. (2003) 'Vitamin D: Photobiology, metabolism, mechanism of action and clinical application', in Favous, M.J. (ed) Primer on the metabolic bone diseases and disorders of mineral metabolism 5<sup>th</sup> edition. Washington D.C.: American Society of Bone and Mineral Research, pp. 129-137.
- <http://www.projects.mmi.mcgill.ca/bonephysio/Ch1p1.html/> (Accessed: 10th January 2008)
- <http://www.kumc.edu/endocrine/bonemetabolism.html>, (2008). (Accessed: 11<sup>th</sup> January 2008)
- <http://www.labtestonline.org/understanding/analysis/alp/test.html>, (2007) (Accessed: 12<sup>th</sup> January 2008)
- Inaba, M. *et al.* (2001) 'Impaired secretion of parathyroid hormone is coherent to diabetic haemodialysed patients', *American Journal of Kidney Diseases*, 38, pp. 139-142.
- Kaji, H. *et al.* (2007) 'Relationship between endogenous parathyroid hormone and bone metabolism/ Geometry in female patients treated with Glucocorticoid', *Hormone and Metabolism Research*. Available on: <http://www.thieme-connect.com/DOI/DOI?10.1055/S-2007-993170>. (Accessed: 12<sup>th</sup> January 2008).
- Knapen, M. H., Eisenwiener, H. & Vermeer, C. (1998) 'Osteocalcin detection in aging serum and whole blood: stability of different Osteocalcin fractions', *Clinica Chimica Acta*, 256 (2), pp. 151-164.
- National Osteoporosis Foundation (1998) 'Physician's guide to prevention and treatment of Osteoporosis', Washington D.C.: National Osteoporosis Foundation, pp. 30.
- Patiff, A.M. (2003) 'Parathyroid hormone and periosteal bone expansion', *Journal of Bone and Mineral Research*, 17 (10), pp.1741-1743.
- Rauchenzauner, M. *et al.* (2007) 'Sex and age-specific reference ranges for serum markers of bone turnover on healthy children from 2 months to 18 years', *The Journal of Clinical Endocrinology and Metabolism*, 92 (2), pp. 443-449.
- Rigu, J. *et al.* (2000) 'Bone mineral metabolism in the micropremie', *Clinical Perinatology*, 27 (1), pp. 147-170.
- Sharp, M. (2007) 'Bone disease of prematurity', *Early Human Development*, 83 (10), pp. 653-658.
- Szulc, P. *et al.* (1993) 'Serum undercarboxylated Osteocalcin is a marker of the risk of hip fracture in elderly women', *Journal of Clinical Investigation*, 91 (4), pp. 1769-1774.
- Takahashi, M. *et al.* (2001) 'Correlation between Parathyroid hormone, Bone Alkaline Phosphatase and N-Telopeptide of Type I collagen in diabetic and non-diabetic haemodialysis patients', *Nephrology*, 12, pp. 539-545.
- Tommasi, M., Bacciottini, L. & Bennci, A. (1996) 'Serum biochemical markers of bone turnover in healthy infants and children', *International Journal of Biological Markers*, 11 (3), pp. 159-164.
- Tucker, M. E. (2008) 'Check parathyroid hormone level in Paget's (Metabolic disorders)', *Family Practice News*. Available on: [http://www.accessmylibrary.com/coms2/summary\\_0286-13793961\\_IMM](http://www.accessmylibrary.com/coms2/summary_0286-13793961_IMM). (Accessed: 12<sup>th</sup> January 2008)
- Valsamis, H.A. *et al.* (2006) 'Anti-epileptic drugs and bone metabolism', *Nutrition and Metabolism*. Available on: <http://www.nutritionandmetabolism.com/content/3/1/36>. (Accessed: 11<sup>th</sup> January 2008).
- Wang, J. *et al.* (2008) 'Serum bone turnover markers in patients with primary bone tumours', *Oncology*, 72 (5-6), pp. 338-342.

## Virtual Panendoscopy A new tool to help evaluating oral cancer. A pilot study

Mr. S Sah, Mr. JK Thiruchelvam, Mr. I Hutchison

### Abstract for AGM Scientific Session

**Introduction:** Oral cancer is the 5<sup>th</sup> or the 6<sup>th</sup> most common cancer in the UK. Almost 4,700 new cases of oral cancer are diagnosed in the UK each year. Approximately there are 1,600 deaths due to oral cancer, which accounts for approximately 2% of all cancers. Several imaging modalities are used to stage the disease and to identify any synchronous primary tumours. Various steps are taken for this which includes naso-endoscopy, MRI, CT and PET. Virtual endoscopy is a new non-invasive imaging modality. It involves the use of the already obtained data from CT scanning of patients using multi detector CT scanners. The data is manipulated using computer software programme to generate 3D models with fly through capability to examine the upper aero digestive tract.

**Aim:** The aim of this study is to compare virtual panendoscopy and conventional fibre optic endoscopy for the detection of synchronous primary cancer of the head and neck.

**Material and Methods:** Ten consecutive patients diagnosed with oral cancer who had a CT scan of the

head and neck in the multidetector CT scanner were included in the study. Those patients also had fibre optic naso-endoscopy as part of their traditional staging process. Soft tissue window data obtained from CT scanning were used. This data was manipulated using a computer software programme to generate 3D models with fly through capability. The findings of this virtual endoscopy were compared to the fibre optic naso-endoscopy. It was done double-blinded as a surgeon and radiologist were unaware of other's findings.

**Results:** High degree of similarity between virtual panendoscopy and conventional fibre optic endoscopy was seen. However more anatomical details were depicted on virtual panendoscopy where it was not accessible to conventional fibre optic endoscopy.

**Conclusion:** Virtual endoscopy is a new, non invasive diagnostic technique enabling extra information to be used by the surgeon to identify synchronous primary head and neck cancer in patients who are already diagnosed with oral cancer. Large study as a prospective multi centre randomised control trial is planned to confirm findings.

## Randomised controlled trial of carvedilol versus variceal band ligation for the prevention of the first variceal bleed

D Tripathi, JW Ferguson, N Kochar, JA Leithead, G Therapondos, NC Mcavoy, AJ Stanley, EH Forrest, WS Hislop, PR Mills, PC Hayes.

### Abstract for AGM Scientific Session

**Background:** Current therapy for preventing the first variceal bleed includes beta-blockers (BB) and variceal band ligation (VBL). A recent meta-analysis has shown VBL to have lower bleeding rates, with no difference in survival. BB therapy can be limited by side effects (SEs), and there are concerns regarding the safety of variceal band ligation (VBL). Carvedilol, a non-cardioselective vasodilating BB is more effective in reducing portal pressure than propranolol, but to date there have been no clinical studies assessing the efficacy of carvedilol in primary prophylaxis.

**Aims:** To compare carvedilol versus VBL for the prevention of the first variceal bleed in a randomised controlled multi-centre trial.

**Methods:** 152 cirrhotic patients from 5 different centres with grade II or larger oesophageal varices that have not bled were studied. Patients were randomised to either carvedilol at 12.5 mg per day or VBL, performed 2 weekly till eradication using a multiband device. The primary end point was the first variceal bleed. Secondary end points were mortality, bleeding related mortality, side effects (SE) leading to treatment discontinuation and other adverse events. Intention to treat analysis was

performed for all outcomes.

**Results:** Over a 6 year period 77 patients were randomised to carvedilol and 75 to VBL. Baseline characteristics: Alcoholic liver disease, 73%; median Child Pugh Score, 8; median age, 54; median follow up, 19.4 months. Patients on carvedilol had significantly lower rates of the first variceal bleed (10% vs 23%; relative hazard 0.41; 95% CI 0.19 - 0.96; p=0.04), with no significant differences in overall mortality (35% vs 37%, p=NS), bleeding related mortality (3% vs 1%, p=NS) and treatment discontinuation due to SE (12% vs 4%, p=0.08). 6 patients in the VBL group bled as a result of banding ulcers, none fatal. Significantly more patients in the VBL arm underwent salvage TIPSS (2 vs 8; p = 0.045).

**Conclusions:** This is the first study to demonstrate lower bleeding rates with BB therapy for primary prophylaxis compared with VBL. Carvedilol was well tolerated, while VBL had an unfavourable adverse events profile. Careful selection of patients and attention to technique are required to reduce the risk bleeding from the banding procedure. Carvedilol should be the treatment of choice for primary prophylaxis.

## Nepalese Diaspora Volunteering Programme (NDVP) – An Introduction

Prakash Khanal, Deputy Director

Volunteering and Special Initiative, CONNECT for CHANGE

**Introduction:** Number of Nepalese people residing in the United Kingdom is around 100,000. Among them are highly trained professionals who have expressed interest to take up volunteering opportunities to contribute to the development of Nepal. Connect for Change (CfC), a British Asian charity registered in the United Kingdom, has initiated Nepalese Diaspora Volunteering Programme (NDVP) with the support from Voluntary Services Overseas (VSO) and Department for International Development (DFID) to fulfil that interest of the Nepalese people. NDVP has been designed to promote innovative approaches to the transfer of technology, skills and knowledge voluntarily by mobilising Nepalese Diaspora community living in the UK. NDVP provides a unique opportunity for Nepalese people to work together. It is an opportunity that will provide the

volunteers the satisfaction of getting involved in the development of your community and your country. This opportunity is only open to a NEPALI people, their Nepali spouses and children. Any Nepali or an offspring of Nepali parents above 18 years of age and with professional skills to share in the area of Education and Health are encouraged to apply for support. There is no educational or academic requirement but the volunteers should possess transferable professional skills and experience which they need to prove during interview. They have to be absolutely committed to work as a volunteer in any area of Nepal from one to 24 months. Cost of the volunteering will be covered by CfC for those volunteers who agree to abide by the mutual agreement. **Rest of the article will be presented in the NDA scientific session.**

# Renal Transplantation: Current Perspectives

Badri M Shrestha BSc MS MPhil FRCS

Consultant Transplant Surgeon, Sheffield Kidney Institute

## Abstract for AGM Scientific Session

Renal transplantation (RT) is the treatment of choice for end-stage renal disease as this not only improves the quality of life of the patients and their relatives, but also improves survival and is cost-effective. Currently over 7000 patients with kidney failure are waiting for a RT in the United Kingdom and just over 2000 RTs is performed annually. Several patients die while waiting for a RT. There are several issues related to RT which are obstacles in meeting the increasing demand of organs and in the prolongation of the survival of the transplanted organs. Premature failure of the transplanted kidneys from the influence of pre- and post-donation factors can be modulated to improve their survival. Endeavours have been made to improve organ donation through adoption of various strategies including introduction of Human

Tissue Act, paired and altruistic donations, transplantation across ABO blood group incompatibility and sensitisation, non-heart beating donation, introduction of laparoscopic live donor nephrectomy and extended donor criteria. Advancements in the immunosuppressive drugs have reduced the incidence of acute rejection rate to near 10%. However, chronic allograft nephropathy remains the major cause of allograft loss and research endeavours are directed to overcome this problem. Induction of tolerance is the holy grail of RT, which is under investigation. Xenotransplantation is under extensive exploration, which has been associated with the fear of transmission of retroviral diseases, the zoonoses. The presentation focuses on the current perspectives of the afore-mentioned issues related to RT.

## Quality of live kidney donors: a single centre experience

Anne Shrestha, University of Sheffield

## Abstract for AGM Scientific Session

Renal transplantation (RTx) improves the quality of life (QoL) of patients with end-stage renal disease. The preservation of QoL of living kidney donors (LKD) is paramount. The aim of this study was to assess the QoL pre- and post-donation using Medical Outcome Survey Short Form-36 (SF-36) and to compare with a control group of potential donors who did not proceed with donation. Over a period of 28 years (1978 to 2006), 82 live donor renal transplantations (LDRTx) were performed. Of the 78 eligible donors, 66 (85%) participated in the survey. The median post-donation period was 4.6 years (range, 3 months to 27 years). 38 individuals were assessed in the control group. The post-donation SF-36 scores of the donors were not statistically significantly different from those of the control group except in 1 out of 8 dimensions, which was physical role (PR). However, in 44/66 (66%) donors the post-donation scores were significantly low compared to their pre-donation scores because of development of co-morbidities such as musculoskeletal pain, migraine, myocardial infarction, diabetes and peptic ulcers as the time progressed since kidney donation. The age, sex, time since donation, and relationship to recipient did not affect QoL. 83% of the donors would have donated again if possible and 90.9% wished to encourage live kidney donation. We conclude that the QoL of live kidney donors was not different from the healthy controls, although with the passage of time, there was some deterioration of QoL due to development of co-morbidities.

## Quality of life following live donor renal transplantation: a single centre experience

Alice Shrestha, University of Sheffield

## Abstract for AGM Scientific Session

Renal transplantation (RTx) improves the quality of life (QOL). The aim of this study was to examine the QOL of the live donor RTx (LDRTx) recipients' pre- and post-RTx. The study population consisted of 75 LDRTx recipients transplanted over a period of 16 years. 58 of 67 (86.6%) recipients, who fulfilled the criteria for the study, completed the Kidney Transplant Questionnaire (KTQ) and the Medical Outcome Survey Short Form 36 (SF-36). 38 healthy individuals who were used as controls completed the SF-36 questionnaire alone. The post-Tx scores in all SF-36 dimensions were significantly higher than the pre-Tx scores, but remained lower than those of the control group. All KTQ dimensions such as Patient Specific Symptoms, Fatigue, Emotional and Uncertainty/Fear, had significantly higher post-Tx scores compared to that of pre-Tx. The dimension, Appearance was an exception where the post-Tx was significantly lower ( $p=0.035$ ) than pre-Tx. We conclude that live donor renal transplantation significantly improves the recipients' post-Tx QOL in all dimensions except appearance.

These 6 abstracts will be presented in the scientific session of the NDA AGM in Sheffield on 9th August, 2008.

# Treasurer's Report

Ramesh K Khoju Shrestha

## BANK ACCOUNTS

Currently, NDA owns three accounts: Current & Charity accounts in Barclays bank, and Life members' fee in higher interest account in Alliance and Leicester. Details of the account will be presented in the AGM 2008.

## MEMBERSHIP

Despite the efforts put on membership growth, young Nepalese doctors have not shown their interest in joining the association. NDA (UK) would like to request all new young doctors to join the association. This year, there have been 8 more new ordinary members and 2 new life members.

## CHARITY FUND

NDA is a socio-professional organisation, but charity has been at its heart since its formation. This year we have donated £500.00 to local Charity at Aberdeen (Aberdeen Foyer). Drug Company's donation to the association has been deposited to the charity fund. (Please refer to NDA web site and charity co-ordinator's report).

I am pleased to announce the NDA finance for year 2007/2008 (audited account), as following:

Nepalese Doctors Association (UK)

Balance Sheet as at 30<sup>th</sup> June 2007 (audited)

	2007	2006
Opening balance		
As at 01.07.2006	8,585	8,341
Surplus of Receipts over		
Payments	14,363	244
	<hr/>	<hr/>
Closing Balance as at 30.06.07	22,948	8,585
Represented by:		
Barclays Bank		
Current Account	15,575	4,648
Charity Account	3,644	3,367
Alliance and Leicester		
Medical benevolent Fund	0	1,029
(Closed account)		
General Deposit Account	0	126
(Closed account)		
Life Members Fee	4,098	0
Nationwide		
Charity Fund Account	1	138
	<hr/>	<hr/>
	23,318	9,308
Deduct: Accrued charges	-370	-723
	<hr/>	<hr/>
	22,948	8,585
	<hr/>	<hr/>

*Detailed presentation done at AGM 2008 at Sheffield.*

# N D A N E W S August 2008

## Appointments:

- Dr Badri Man Shrestha, Director of Transplantation, Sheffield Kidney Institute
- Dr Dhiraj Tripathi, Consultant Physician and Hepatologist, Birmingham
- Dr Mitesh Sharma, GP Principal at Pendlebury Health Centre, Manchester
- Dr Milan Piya, Clinical Lecturer in Diabetes and Endocrinology, Birmingham
- Dr Sunil Sah, SpR in Maxillofacial Surgery, Trent Rotation
- Dr Nanu Acharya, ST3 in Respiratory Medicine, South Yorkshire and South Humber Deanery (Sheffield)
- Dr Sankalpa Neupane, ST3 in Diabetes and Endocrinology and General Medicine, East of England Deanery
- Dr Nawaraj Subedi, ST1 Radiology run through, Aberdeen
- Dr Leela Gautam FRSPH, Associate Specialist in Community Medicine, has retired from last April.

## Examinations/Awards:

- Dr Shambhu Acharya, awarded Foundation Fellowship of the Faculty of Pain Medicine of the Royal College of Anaesthetists, and also completed Postgraduate Certificate in Medical Education from Dundee University
- Dr Arun Kumar Jha, awarded Fellow of the Royal College of Psychiatrists
- Sandesh Acharya, MBChB from Manchester University
- Alice Shrestha, MBChB (& BMedSci) from Sheffield University
- Anne Shrestha, MBChB (& BMedSci) from Sheffield University
- Jason Adhikaree, MBChB (& BSc Hons in Neurology) Imperial College, London
- Dr Pralaya Rijal, dual qualification, MD (Russia) and BDS (Poland)
- Meena Gautam, Diploma in the Practice of Law. She will start a traineeship in Corporate Law next year.
- Nitesh Sharma, MPharm from Manchester University

## New Arrivals:

- Drs Nandan and Jennifer Gautam blessed with a baby daughter, Sophie.
- Eva Gautam-Aitken and Ross Aitken blessed with a baby daughter Lola.
- Drs Mohan and Meenakshi Thapa blessed with a baby daughter Malya.
- Drs Milan and Rojeena Piya have been blessed with a baby boy Rian.

## Wedding Bells:

- Dr Saroj and Resha Baidya
- Dr Santosh and Smita Bhandari
- Drs Naveed Soomro and Ambu Shrivastav
- Dr Sunil and Simran Sah

## Condolence:

- Dr Shabin Joshi and family on the demise of his mother.
- Mrs Nirmala Shrestha and family on the demise of her father.

## Other News:

- Dev and Prav, twin sons of Dr. Arati and Mr. A Hamal won championship organised by Wakefield chess club this year. Dev won 'under-15' championship and Prav won 'under 11' championship. Dev also won the 'Man of the Match' award during the District's Cricket Junior championship match.
- Shabeena Panesar, daughter of Dr. Anokha Hamal and Mr. Panesar, won Prizes in Science, Art and Design and Farah Panesar won prizes in Science and Maths. Shabeena also won Design award in Epping Forrest Council Competition.
- Sophie and Karina Nepali, congratulations for getting a Black Belt in Karate.

**And finally, congratulations to our Chairman Dr Prasanna Gautam on the publication of his autobiography, "I will need to break your other leg: Tales of Medical Adventure and Misadventure."**