Letters to the Editor

The Routine Use of Fine Needle Aspiration Cytology in the Screening of Thyroid Nodules for Surgery

Sir,

We read with interest the article by Dr Al-Tameem on FNAC of thyroid nodules (Saudi Med J 1991; 12(4): 304–305). It is unfortunate that the high false negative results led the author to conclude that FNAC is not a reliable procedure for screening of the thyroid nodules.

FNAC of thyroid, or for that matter any organ is beneficial only when it is skilfully done and accurately interpreted. The best results are obtained when the aspiration is performed by the cytologist and interpreted by cytologists specially trained and experienced in FNAC.

Today FNAC is widely accepted as the most accurate procedure to differentiate benign from malignant thyroid nodules. Compared with ultrasonography and radioisotope scan, FNAC is more specific and sensitive in the diagnosis of thyroid nodules.

It appears from Dr Tameem’s article that the high false negative result could be due to non-availability of a suitably experienced cytologist. We feel that this aspect should be taken care of before such an adverse conclusion is made about a procedure which is now well accepted as easy, reliable and cost effective.

A. Rajwanshi MD(PaH)
Consultant,
Department of Pathology,
Salmaniya Medical Centre,
PO Box 12, Manama,
Bahrain

A. K. Banerjee MD(PaH) FRCPATH
Chairman and Consultant,
Department of Pathology,
Salmaniya Medical Centre,
PO Box 12, Manama,
Bahrain


References

Sir,

The advocates of FNA technique emphasize that much experience is required in obtaining samples and interpreting the obtained cytology. As a result there is a tendency not to accept views that question the value of this technique in the screening of thyroid nodules. Such conflicting views are incorrectly attributed to lack of experience. However, such experience may not be available in the majority of hospitals that currently treat these lesions. That is probably why Drs Rajwanshi and Banerjee, who are consultant pathologists, did not present their personal experience about FNAC of thyroid in their letter to the editor, but only quoted the views of others from the literature.

In the paper to which they were referring, 82 nodules were screened by FNA and were operated upon and thus the cytological diagnosis could be correlated to the histological diagnosis. Of these 82 nodules, 46 (56%) would have to be operated upon, primarily, because of malignant, suspicious or inadequate cytology. The remaining 36 nodules could have been considered for conservative treatment with a risk of malignancy of 3%. Thus, the role of FNAC in that work was to reduce the risk of malignancy from 7% to 3% in 44% of patients screened by FNA. In geographical areas with a much higher incidence of malignancy in thyroid nodules such reduction in the risk of malignancy may not bring it to a level that makes conservative treatment acceptable. Moreover, the clinical outcome of such nodules, if treated conservatively, indicate that the majority of these would eventually come to resection.

The fact that other currently available alternatives are still disappointing does not justify the use of a technique with questionable value.

Dr Mohsen Al-Tameem FRCS
Associate Professor and Consultant General Surgeon,
Dept of Surgery,
King Saud University,
PO Box 7805, Riyadh 11472, Saudi Arabia


References

Latah: ‘An-nagza’ Need They ‘Jump’?

Sir,

Whether or not to treat Latah*, better known in the Yemen as ‘An-nagza’, may be a controversial question. It is a curious culture-bound condition akin to a permanent post-hypnotic state, whereby the afflicted person is unable to resist imitating brisk movements and sounds or obeying sudden loud and terse commands.

*The Malay name for the condition; ‘Myriachit’ in Siberia; ‘Mali Mali’ in the Philippines; ‘Jumping’ in North America; and ‘An-nagza’ in the Yemen.
In other words the patient 'exhibits sustained and complete echopraxis, echolalia and often command automatism.' It is thought to be an evolution of tickling.1

George Beard reported to the American Neurological Association in 18782 and later (1880) experimented on cases he called 'Jumping Frenchmen' of Maine. In 1952 Yap made a detailed study of 'Latah' in Malaysia and Indonesia.4 The latest assessments of the possible mechanisms involved in this condition were made by Murphy in 1976,5 Simons 19806 and Kenny 1983.7

The range of morbidity associated with this condition extends from simple inconveniences, most of which are often induced by practical jokers around the patient, to accidental and intentional fatalities reported anecdotally and in the form of legends. Sufferers are unable to watch movies (especially Western films) in public for they would start either punching or hugging those around them, depending on the scene. They have been known to tear up their month's salary cheques in imitation of nasty jokers, frantically tearing up blank paper. Anecdotal reports from Al-Khobar speak of afflicted waiters having been induced to drop food-laden trays and hence lose their jobs, by customers in search of amusement, who simply shout commands at them.

Fatalities have been reported (anecdotally) among those ordered to run across busy highways or to jump from high places. More tragic are the legendary stories of unfortunate fathers having been ruthlessly induced to drop their babies into boiling cauldrons.

In 1974 I incidentally saw a 27-year-old Yemeni male with 'An-nagza' in the surgical ward of the Tapline Base Hospital at Arar, Saudi Arabia. Having been admitted with a tibial fracture sustained in a road traffic accident, he had quickly become the butt of the jokes of the male nurses who kept ordering him to do all sorts of obscenities, often to the point of his exhaustion.

Treatment by the surgeon with chlorpromazaine and diazepam to the point of drowsiness had not helped much. Acting on a hunch (I had no information on this condition then), I resorted to a trial of phenytoin at a dose of 100 mg p.o. three times daily. To the 'dismay' of the nurses and to our pleasant surprise the patient soon started to show some hesitation when ordered to do something against his will, and within one week he was in full remission and in complete control of all his actions.

Unfortunately his 'honeymoon' did not last long for he developed a drug rash which necessitated taking him off phenytoin, after which he had to leave for his country. Since then I had been waiting in vain for other cases so that I could confirm my finding with phenytoin or try other safer medications.

Hence this letter to readers who might have seen cases of 'An-nagza' in the vicinity of their practice. I would suggest the use of phenytoin (if they have not already tried it) or other likely candidates such as carbamazepine or propranolol. There are no records of remissions following psychotherapy and treatment with benzodiazepines or dopaminergic drugs as suggested in psychiatry textbooks.

Boqhos L. Artinian MD MRCP
C/o Mrs R. Artinian, UCDP
American University of Beirut
Beirut, Lebanon

References

Morgagni Hernia: Any Association with Down’s Syndrome?

Sir,

I read with interest the recent article by Al Salem, Grant and Khwaja on Morgagni hernia in children (Saudi Med J 1991; 12(4): 301-303). I draw attention to the fact that some cases of Down’s syndrome might have an associated Morgagni hernia. This was the case with one of our patients. To the best of my knowledge this is the third report to show this association. The first was by Pokorny et al. in 1984. I have already reported three Saudi children with Down’s syndrome who happened to have an associated Morgagni hernia.1

It is known that Morgagni hernia can be associated with other anomalies particularly congenital heart disease.2 It is also known that trisomy 18 (Edward’s syndrome) might have a diaphragmatic hernia of the posterolateral type. However, it is possible that Morgagni hernia could be a rare associated defect in children with Down’s syndrome, i.e. trisomies in general do seem to be predisposed to have associated diaphragmatic defects. I now believe the association is a real one occurring much more often than could be accounted for by chance alone. I wonder if the central hypotonia of Down’s syndrome does in fact contribute to weakening of the diaphragm (in our third case there was a recurrence of hernia after an earlier repair).

It is possible that some cases of Morgagni hernia in children with Down’s syndrome are missed as the occurrence of respiratory distress is always considered and treated as a respiratory infection as the result of their impaired immunity.

MOHAMED EL HAG EI AWAD MRCP FRCP UK DCH
Assistant Professor,
Dept of Paediatrics,
PO Box 641,
ABHA, Saudi Arabia

References
Letters to the Editor

Sirs,

We thank Dr Awad for his interest in our paper on Morgagni hernia: Presentation in childhood. We agree with his observations that the association between Down's syndrome and Morgagni hernia is not unknown. In fact, as more and more children with congenital diaphragmatic hernia survive the initial presentation, the association with multiple congenital anomalies has been recognized. Congenital heart disease is probably one of the most common associations and would in this aspect be a common denominator between trisomy 21 and congenital diaphragmatic hernia. However, it is difficult to establish a cause and effect relationship between one syndrome and a particular anomaly. Clearly, embryological malformations are the result of multifactorial influences and it could be inadvisable to single out a special relationship. We therefore do not wish to speculate on the role of hypotonia of Down's syndrome in the development of diaphragmatic defects.

The question of missed hernia—Morgagni or others—is not unknown. In fact late diagnosis because of episodic nature of respiratory tract infection and ambiguous gastrointestinal symptoms has been well documented in one of the previous reports from this hospital.

References


Large Vaginal Stone

Sirs,

I read with interest the report of a vaginal stone in a 19-year-old girl by Dr M. A. Elmahaishi (Saudi Med J 1990; 11(3): 240–241) as I encountered a similar problem more than 10 years ago but both the aetiology and surgical approach were different.

A girl of 15 presented to Abu Gibeila hospital—a remote one-doctor hospital in the Nuba mountains of western Sudan with urinary retention. She gave a history of similar repeated attacks relieved by hot water baths. Catheterization attempts failed due to the presence of a tight circumcission. No X-ray facilities were available. Written consent was obtained from the father for an urgent surgical decircumcision, an operation sometimes necessary at honeymoon time in that district. On examination under anaesthesia the combined urethro-enterotonal opening was pin hole in size.

Decircumcision incision revealed a bulging, hard, cone shaped, pinkish white mass. It was not removable en masse by gentle forceps traction. Luckily, it was fragile. The combined volume of all the fragments was 48 cc by water displacement. This mass was a phosphate vaginal stone secondary to tight pharionic circumcission. The hymen was totally eroded. No foreign body nidus was detected. The patient had a non-eventful postoperative period.

DR MOHAMED EL MOUTASIM ABDEL BAGI
Head, Department of Radiology, Social Insurance Hospital, PO Box 42142, Al Rabwa, Riyadh 111541, Saudi Arabia


Autologous Blood Transfusion: The Underutilized Safer Alternative and its Relevance to Transfusion Practice in Saudi Arabia

Sirs,

I have read the recent article on autologous transfusion (Saudi Med J 1991; 12(4): 275–279). Dr Harakati has explained briefly the advantages of autologous transfusion (AT). I feel that in a country like Saudi Arabia where the risk of transfusion transmitted diseases (TTD) is high, especially that of posttransfusion hepatitis, AT should be encouraged in order to minimize the risk of TTD. Careful donor recruitment and screening for hepatitis B surface antigen only, is not enough as far as post-transfusion hepatitis is concerned as this is mostly of the non-A, non-B (NANB) type. Screening for antibody to hepatitis B core antigen (anti-Bc) and determination of the serum alanine aminotransferase level is not generally the present policy in Saudi Arabia, as this might deter 70% of donors. There are suggestions that screening for hepatitis B virus should be carried out in all Saudi Arabian blood centres, as this is one of the causative agents for the NANB type of hepatitis.

Moreover, physicians should be made aware of the adverse effects of the transfusion therapy; at present unfortunately, most of them feel that blood transfusion serves as a tonic for their patients.

I strongly share Dr Harakati's view that the AT programme should be tried and considered widely in the Kingdom as it is the safest mode of transfusion therapy as far as the problems of TTDs are concerned. AT could be of help in rare blood group patients and in patients with irregular antibodies as there is no risk of alloimmunization nor is there risk of immunological types of febrile, allergic, or haemolytic transfusion reactions.

DR RAIQ AHMAD CALCUTTI
Blood Transfusion Specialist, Children's Hospital, Taif, KSA

I read with great interest the letter sent by Dr R. A. Calcutti. I am so pleased that he shares my views about autologous blood transfusion and the need for its practice in the Kingdom. The question raised regarding HCV donor screening and whether or not it should be routinely carried out in all transfusion centres in the Kingdom is difficult to answer at the present time because of the following points:

1. The exact HCV carrier rate in the population in general is not known. This carrier rate is very important to define as it is essential to:
   a. determine the cost-effectiveness of such a testing;
   b. estimate the potential reduction in the donor-pool size and whether this reduction will be affordable or not.

2. Although expected to be high, the exact incidence of posttransfusion hepatitis in Saudi Arabia is not known.

3. Since the impact of HCV antibody donor screening and positive donor exclusion on the true incidence of posttransfusion hepatitis is not well-defined, one should be cautious before recommending routine HCV donor testing in all transfusion centres.

Thus, I feel that well-designed studies are urgently needed to answer the first two points. The test may then be implemented in some or all transfusion centres. The incidence of posttransfusion hepatitis should be determined in those centres following the initiation of this testing and all recommendations could then be based on objective grounds.

MOHAMMED AL HARIKATI MD FRCP(C)
Assistant Professor & Consultant Haematologist,
Dept of Medicine (38),
College of Medicine & KKUH,
PO Box 2925,
Riyadh 11461,
Saudi Arabia

Saudia Medical Journal 1992, 13(4): 368

Campylobacter Species: Comparison of Isolation Techniques in Saudi Arabia

Sir,

The importance of Campylobacter species in bacterial enteritis is now well recognized. Several studies have documented the prevalence of Campylobacter species in Saudi Arabia.1,2 Isolation of Campylobacter species from faeces requires special selective techniques because of their microaerophilic nature and because other ‘contaminating organisms’ are normally present in faecal specimens. The term ‘contaminating organisms’ in this report describes organisms which form part of the normal gut flora; the growth of these organisms should be significantly curtailed on all Campylobacter selective media. One earlier report in Saudi Arabia urged laboratories to screen for this important pathogen and suggested the use of Skirrow’s medium.3 The laboratory at the National Guard King Khalid Hospital, Jeddah (NG) has been screening for Campylobacter species for several years, in patients with diarrhoea using Skirrow’s medium (SM) prepared by Saudi Prepared Media, Riyadh (SPM).

| Table 1 |
| Contamination level of different media in series 1 |
| Direct | PEB | SM-SPM | PEB | SM-SPM | CCDA-NG |
| (%) | (%) | (%) | (%) | (%) | (%) |
| Contaminants | 3+ | 24 (35) | 21 (30.45) | 19 (27.5) | 1 (1.5) |
| | 2+ | 28 (41) | 21 (30.45) | 17 (24.6) | 2 (2.9) |
| | 2+ | 17 (25) | 8 (11.6) | 20 (29.0) | 15 (21.7) |
| | 0 | – | 19 (27.5) | 13 (18.9) | 51 (73.9) |

| TOTAL | 69 | 69 | 69 |

PEB = Preston enrichment broth. SM-SPM = Skirrow’s medium supplied by Saudi prepared medium. SM-NG = Skirrow’s medium prepared at NG. CCDA-NG = Modified blood free agar prepared at NG. 0 = none; 1 = scanty, 2 = few, 3 = many.

NG = National Guard King Khalid Hospital, Jeddah.

| Table 2 |
| Contamination level of media in series 2 |
| Direct | PEB | SM-SPM | PEB | SM-SPM | CCDA-NG |
| (%) | (%) | (%) | (%) | (%) | (%) |
| Contaminants | 3+ | 3 (4.3) | 25 (38.5) | 33 (50.8) | 5 (7.7) |
| | 2+ | 29 (44.6) | 13 (20.0) | 4 (6.2) | 4 (6.2) |
| | 1+ | 21 (32.3) | 15 (23.0) | 15 (23.0) | 6 (9.2) |
| | 0 | 12 (18.5) | 12 (18.5) | 13 (20.0) | 30 (76.9) |

| TOTAL | 65 | 65 | 65 |

Abbreviations and scoring as for Table 1.

| Table 3 |
| Contamination of different media used in series 3 |
| Direct | Broth | SM-SPM | Broth | SM-SPM | CCDA-NG |
| (%) | (%) | (%) | (%) | (%) | (%) |
| Contaminants | 3+ | 31 (27.2) | 10 (8.8) | 29 (25.4) | 3 (2.6) |
| | 2+ | 22 (19.3) | 18 (15.8) | 22 (19.3) | 8 (7.0) |
| | 1+ | 56 (49.1) | 54 (47.4) | 36 (31.6) | 34 (29.8) |
| | 0 | 5 (4.1) | 32 (28.0) | 27 (23.7) | 69 (60.6) |

| TOTAL | 114 | 114 | 114 |

Abbreviations and scoring as for Table 1.

Technical staff often found that the medium did not effectively control the growth of contaminating organisms and this made it difficult to isolate the pathogenic Campylobacter species. In order to find a suitable alternative, the trial now reported, was conducted.

Tables 1–3 show the results obtained on the different media tested. The results of the three series show that the performance of SM-SPM was the poorest in terms of both isolating pathogenic Campylobacter species and effective control of contaminating organisms. The best results were obtained using the CCDA-NG medium in conjunction with the enrichment broth. Previous studies in the UK have also documented that isolation rates of Campylobacter species improved considerably with the use of the Preston enrichment broth (PEB).4,5 In series 1 and 2, four strains of Campylobacter were isolated only after broth enrichment (i.e. 100% improvement with PEB). In series 3, Campylobacter species were isolated from six specimens with significantly improved growth after enrichment in PEB. When broth was not used the growth of Campylobacter was scanty and a large number of contaminating organisms were found. Similarly in the UK, a collective survey from several laboratories reported that enrichment in PEB resulted in increased isolation rates from 15.9 to 85.7% and several laboratories subsequently initiated routine use of PEB.4

Abbreviations and scoring as for Table 1.

1. Adapted from J. Infection Control 1992, 13: 413.
2. Adapted from J. Infection Control 1992, 13: 413.
3. Adapted from J. Infection Control 1992, 13: 413.
4. Adapted from J. Infection Control 1992, 13: 413.
The use of CCDA-NG in all three series resulted in a dramatic reduction of contaminants. Previous work in the UK has shown that Skirrow's medium lacks specificity and contamination levels are as high as 75%, compared with only 13–32% on CCDA plates.5,6

In addition to improving the isolation rates for pathogenic Campylobacters and reducing the levels of contaminating organisms, the CCDA medium had the advantage of being more cost effective. The current cost of CCDA medium is about SR 1.38 per plate at NG and the cost of the Skirrow's medium supplied by SPN is about SR 2.54. The medium is easy to prepare; preparation on site ensures that the medium is fresh and allows regular quality control.

It is recommended that laboratories in the Kingdom should screen for Campylobacter species. The best isolation rates and selectivity can be obtained by using Preston enrichment broth and modified blood free agar.

RAZINA ZAMAN
Research Microbiologist,
Pathology Department,
National Guard King Khaled Hospital,
Jeddah 21423
Saudi Medical Journal 13(4): 368–369

References

Primary Amoebic Meningo-encephalitis: Does it Exist in Saudi Arabia?

Sir,

Primary amoebic meningitis is a serious disease caused by amoebae which are free-living in soil and certain bodies of water. These organisms are Naegleria fowleri and Acanthamoeba culbertsoni. The first fatal cases of this disease were diagnosed and documented in Australia in 1965.1

Usually, the amoebae gain access to the brain directly through the cribiform plate to cause fatal meningitis and/or encephalitis in most of the victims. The clinical and cerebrospinal fluid (CSF) findings closely resemble bacterial meningitis. Typically, A. culbertsoni infection occurs in older, immunocompromised individuals with no history of exposure to swimming pools. The illness is chronic, more benign and mimics tuberculous meningitis. The pathogenesis of this disease has not been well characterized.

Histologically, Acanthamoeba lesions show granulomatous inflammatory changes and both trophozoites and cysts are present in the tissues. The diagnosis of PAM depends on clinical suspicion of the disease. In Naegleria cases, examination of wet mounts of CSF using a light microscope, easily shows amoebic trophozoites. Laboratory confirmation of the disease is by a direct fluorescent antibody stain. Acanthamoeba is difficult to diagnose; however, brain biopsy is diagnostic in 75% of cases and culture if available is usually successful. Naegleria is sensitive to amphotericin B and miconazole while Acanthamoeba is sensitive to sulphanamides and polymyxin B. Successful treatment of PAM has been reported.2

It is interesting to suggest that the unexplained deaths of some meningitis patients encountered in hospital practice may have been cases of PAM. As far as I know, no case of PAM has been reported from Saudi Arabia. The disease has been described in many countries including the USA, Australia, India, UK, Nigeria, and Mexico.3,4 The question whether PAM occurs in Saudi Arabia or not is an important one that remains to be answered.

References

The Battered Child Syndrome: Does it Exist in Saudi Arabia?

The recent article on the battered child syndrome published in this journal (Saudi Med J 1991; 12(2): 129–133) makes very interesting reading. It is original, informative and illustrative. The author Dr Y. A. Al-Eissa deserves congratulations for reporting this syndrome which has sinister medical, social, psychological and legal implications. Its existence in the Arab World especially in Saudi Arabia where children are brought up with tender care is very shocking.

The infliction of wilful physical or emotional trauma by parents, foster parents or other caretakers on
helpless children has been collectively subsumed under different rubrics including unrecognized trauma, battered baby/child syndrome and maltreatment syndrome in children. For the purpose of semantic clarity the term 'unrecognized trauma' is only limited to the bony lesions of the battered child and is probably no longer used in practice. The term 'battered baby/child syndrome' originated at a seminar sponsored by the American Academy of Paediatrics in 1961. Though the term was defined as encompassing the total spectrum of abuse, it is in fact emotive, limited and implies the exclusion of any mild or moderate traumas of child abuse, and the emphasis of the most severe, nearly fatal, injuries. The term 'maltreatment syndrome in children', on the other hand is more inclusive and reflects the true dimensions of child abuse and neglect. It is, however, unfortunate that the term 'battered child syndrome' continues to enjoy popularity among health professionals, in spite of its narrow meaning. The 'Munchausen syndrome by proxy' is a variant of Munchausen syndrome and, currently considered as a type of child abuse. In this case a parent, usually the mother, but exceptionally the father not only induces fictitious illnesses (like mixing blood in the urine of the child to assure his admission) but may also inflict, although less commonly, real injuries on the child in order to secure admission. This syndrome is extremely elusive and goes unrecognized in early stages of its manifestations. The child, therefore, is subjected to unnecessary, traumatic and sometimes hazardous investigations. Hence, medical health professionals contribute to the child abuse of 'Munchausen-by-proxy syndrome'. Some authors, to aggravate confusion further, have equated 'Munchausen-by-proxy syndrome' with the 'battered child syndrome'.

Social crises, potentially abusing parents and the vulnerable child are three important components engendering child abuse and neglect. In Dr Al-Eissa's article, similarly, step-relationships and the presence of handicapped and troubled children entangled in the web of marital conflicts were probably the main factors responsible for child abuse. In the light of this, what is the aetiological role of perpetrators? In one study, it was found that perpetrators, with few exceptions, suffered from severe psychiatric problems requiring definite psychiatric treatment. It has also been reported that the potential to abuse small children physically can be demonstrated in most abusive parents. Furthermore, the literature from the West suggests that parenting problems lead to overfeeding, inactivity, isolation and abuse during their childhood. These are some of the additional important factors associated with abusing parents as the socio-demographic parameters of perpetrators and non-perpetrators are more or less the same.

So what is the significance of this. I hesitate to generate general hypotheses, such as the possibility that these instances of the maltreatment syndrome in children may be the results of the Arab World undergoing psycho-sociocultural metamorphosis and thus adopting the most devastating lifestyles of other cultures.

One sinister implication is that if child abuse and neglect is unrecognized, unreported, and neglected by concerned personnel, Arab society will be vulnerable to the production of more murderers, drug abusers, and battering parents and a vicious cycle of violence generating violence will ensue. Above all, medical health professionals must evaluate all potentially abusive parents and treat them accordingly. Finally, Dr Al-Eissa concludes this paper with an enlightening hadith from Prophet Mohammed (PBUH). I would emphasize that if every individual followed the precepts of religion in a true sense, this universe would be free from all medicopsychosocial catastrophes.
society, but Dr Qureshi's fears seem somewhat exaggerated.

YOUNSEF A. AL-EISSA MD FAAP FRCP(C)  
Associate Professor and Consultant Paediatrician,  
College of Medicine, King Saud University,  
PO Box 2925,  
Riyadh 11461, Saudi Arabia  

References

Paradoxical Response During Chemotherapy of Tuberculous Cervical Lymphadenitis

Sir,

Al-Aska et al. (Saudi Med J 1990; 11(2): 111-112) have reported the occurrence of paradoxical response during chemotherapy of tuberculous cervical lymphadenitis in four patients and they described this as the first report from the Middle East. Their report has highlighted the occurrence of a very important phenomenon that has not been reported in the Sudan despite the fact that tuberculosis is still a major health problem. The information is of great help for both patients and doctors. We now report a similar response in an 18-month-old Sudanese boy with tuberculous lymphadenitis. The child was admitted to Khartoum Teaching Hospital with marasmus and enlargement of the left cervical lymph glands. The glands were in the anterior triangle, matted together and about 6 x 4 cm in size. Investigations revealed Hb 7.1 g/dL, ESR 136 mm/h and a strongly positive tuberculin test. Lymph gland biopsy showed a caseating granulomatous lesion and the histopathology report was compatible with the diagnosis of tuberculous lymphadenitis. Chest X-ray was normal. Treatment was started with four anti-tuberculous drugs (streptomycin, isoniazid, rifampicin, ethambutol). Two weeks later new lymph glands appeared on both sides in the anterior and posterior triangles. The child became distressed and developed noisy breathing. Lateral X-ray of the cervical spine was normal. Treatment with anti-tuberculous drugs was continued and 3 weeks later the general condition of the patient improved and at the time of writing this letter the child was breathing normally and his glands had become smaller in size.

MUTWALI A. M. HUSSAIN MBBS PND FRCPE DCH  
ABDUL M. A. GADIR MBBS  
Department of Paediatrics,  
Khartoum Teaching Hospital,  
Khartoum,  
Sudan  

The First Liver Transplant in Saudi Arabia

Sir,

The first successful liver transplant in Saudi Arabia, the Middle East and the Arab World was performed on 30 July 1990 at the Armed Forces Hospital, Riyadh, which is also a centre for renal, heart and bone marrow transplants. The patient was a 23-year-old male university student from Medina. He was referred for liver transplantation because of end-stage liver cirrhosis due to sclerosing cholangitis.1-3 He was investigated and evaluated according to our prepared protocol including all laboratory tests, ultrasonography, ERCP, PTC and liver biopsy. All tests confirmed liver cirrhosis secondary to sclerosing cholangitis.

The liver donor criteria, the harvesting of the liver graft and the transplantation of the liver into the recipient, were done according to previously described techniques.4-6 The postoperative period was uneventful and the patient was discharged, well, on the 56th postoperative day, on low doses of cyclosporin A, azathioprine and prednisolone. During admission and following discharge he was regularly followed up by laboratory tests (Table 1) and Doppler sonography of the liver.

Now 16 months after his transplant, he is doing very well and is back to his normal activities. His liver function is now completely normal.

Several Saudi patients with end-stage liver disease requiring liver transplants have had them in the USA or in Europe.

We hope with this successful liver transplant, to have past the first milestone for future liver transplant programmes in Saudi Arabia.

Table 1  
Parameters of liver function

<table>
<thead>
<tr>
<th>Date</th>
<th>Stage</th>
<th>Total bilirubin g/dL</th>
<th>Alkaline phosphatase U/L</th>
<th>AST U/L</th>
<th>LDH U/L</th>
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<tr>
<td>11.7.90</td>
<td>On admission</td>
<td>2-22</td>
<td>36-125</td>
<td>11-55</td>
<td>100-240</td>
</tr>
<tr>
<td>26.9.90</td>
<td>On discharge</td>
<td>450</td>
<td>1230</td>
<td>243</td>
<td>975</td>
</tr>
<tr>
<td>4.10.90</td>
<td>3 months after operation</td>
<td>20</td>
<td>835</td>
<td>63</td>
<td>702</td>
</tr>
<tr>
<td>6.1.91</td>
<td>6 months after operation</td>
<td>20</td>
<td>835</td>
<td>63</td>
<td>702</td>
</tr>
<tr>
<td>30.3.91</td>
<td>9 months after operation</td>
<td>25</td>
<td>339</td>
<td>119</td>
<td>190</td>
</tr>
<tr>
<td>6.7.91</td>
<td>12 months after operation</td>
<td>22</td>
<td>247</td>
<td>119</td>
<td>195</td>
</tr>
<tr>
<td>14.10.91</td>
<td>15 months after operation</td>
<td>20</td>
<td>122</td>
<td>43</td>
<td>208</td>
</tr>
</tbody>
</table>

AST = Aspartate transaminase; LDH = Lactic dehydrogenase; NNR = Normal reference range.

MUTWALI A. M. HUSSAIN MBBS PND FRCPE DCH  
ABDUL M. A. GADIR MBBS  
Department of Paediatrics,  
Khartoum Teaching Hospital,  
Khartoum,  
Sudan  

M. JAWDAT FACHRZET CHIR  
N. GATTAN FRCPE  
M. AL KARAWI FACHRZET  
M. ABDULKHALIM  
Riyadh Armed Forces Hospital,  
PO Box 7897, Riyadh 11159, KSA  
References
