Letters to the Editor

Normal Cerebrospinal Fluid in Bacterial Meningitis

Sir,

Lumbar puncture is indicated in any febrile patient with possible meningitis. If the cerebrospinal fluid (CSF) is found to be normal with a normal cell count, glucose and protein value and a negative Gram stain smear, it is usually assumed to exclude the possibility of meningitis. Just as the absence of meningeval signs does not exclude meningitis, normal CSF parameters may not always eliminate the possibility of bacterial meningitis.

In a retrospective analysis of records of patients with culture-positive bacterial meningitis admitted to the Suleimania Children’s Hospital from February 1985, through October 1990, 109 patients were identified. Organisms recovered were *Haemophilus influenzae* 62; *Streptococcus pneumoniae* 21; *Neisseria meningitidis* 15; Group B streptococci 6 and others 5. Four (3.6%) of these patients had normal CSF which proved to be culture positive. Patients were identified as having normal CSF if there were no more than six white blood cells $\times 10^9/l$ with two or fewer polymorphonuclear leukocytes, glucose greater than 50% of the serum concentration, protein less than 450 mg/l (for newborns less than 1500 mg/l) and negative Gram stain. The clinical and laboratory data for these patients is summarized in Table 1. All four patients were male, and three were Saudi. Latex particle agglutination test was negative for all but one patient with meningococcal meningitis (Case 2). The platelet count was normal for all patients. Blood cultures were negative in all four cases. All four patients were hospitalized, with all but one (Case 1) begun on empiric antibiotic therapy.

Patient 1 presented with fever and convulsions. He had previous history of febrile convulsions. His condition deteriorated suddenly 1 h after admission and he expired in spite of resuscitation, without receiving any antibiotics. The other three patients received antibiotics empirically from the start and each had an uneventful course with complete recovery. Repeat lumbar puncture on patients 2, 3 and 4, done 36 hours to 10 days after their first lumbar punctures showed no growth on culture. The organisms recovered were sensitive to the antibiotics administered. Additional careful review of these cases did not reveal other indicators which might have distinguished bacterial meningitis. On follow-up of the three surviving patients for 6–40 months the neurological development has been normal.

Patients with normal initial CSF findings but positive CSF cultures have been reported earlier.1–3 Lumbar puncture and CSF examination are routinely performed when the diagnosis of pyogenic meningitis is considered. Normal CSF results may be erroneously interpreted as excluding this condition. Swartz & Dodge4 reported only one of 207 patients with bacterial meningitis, who had normal CSF parameters other than culture. Polk & Steele5 recently reported seven in 261 (2.7%) children with bacterial meningitis, having normal CSF parameters other than culture.

Although two of our patients presented with convulsions, a history of fever with convulsions may not distinguish meningitis from non-meningitic patients since febrile convulsions are frequent among the paediatric population. Only one patient had positive signs of meningeal irritation (Case 2). This may be related to the fact that he was older.

In the paediatric population the organisms isolated most often from patients with normal CSF and positive culture include; *Haemophilus influenzae*, *Streptococcus pneumoniae*, *Neisseria meningitidis* and Group B streptococci.1–5 Two of our patients had *Streptococcus pneumoniae* and one *Neisseria meningitidis*. Our series included one neonate with *Escherichia coli* meningitis. *Escherichia coli* is rarely associated with normal CSF findings at the time of initial examination. There is only one published report of a newborn with *Escherichia coli* meningitis and initially normal CSF.7

As evidenced by our patient with meningococcal meningitis, additional diagnostic tests, such as latex particle agglutination or countercurrent immunoelectrophoresis, may be helpful in the early diagnosis of meningitis when CSF is initially considered as normal. It is unlikely that these tests will be able to distinguish all patients with meningitis from those with non-meningitic febrile illnesses.

In summary it is imperative that one should have a high index of suspicion and perform lumbar puncture for all patients with suspected meningitis. If CSF is normal, the physician should rely upon his clinical judgement in repeating lumbar puncture and starting antibiotic treatment empirically.

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References
1Shuaib M. Cerebrospinal fluid examination in bacterial meningitis. Suleimania Children’s Hospital, 1985–1990. Suleimania Children’s Hospital, Riyadh, Saudi Arabia


<table>
<thead>
<tr>
<th>Patient</th>
<th>Age (months)</th>
<th>Duration of symptoms (hours)</th>
<th>Previous antibiotics</th>
<th>Temperature (°C)</th>
<th>Symptoms and signs</th>
<th>Meningeal signs</th>
<th>Blood</th>
<th>CSF</th>
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Stapedectomy: Small vs Large Fenestration

Sir,

With reference to the recent article in your journal (Saudi Med J 1990; 11(6): 488-492), the author, Dr S. A. Kamal, has published excellent information regarding the advantages of small fenestration technique over large fenestration technique in stapedectomy in cases of otosclerosis. We all know that the age of otosclerotic patients who need surgical interference is almost always such that the technique can easily be performed under local anaesthesia with many advantages, so I wonder why the author has used general anaesthesia in all his 50 operated cases. Readers will be obliged if the author can tell us the reasons why he used general anaesthesia and perhaps he could comment on this.

Since SFT is a better technique, it is hoped that more and more otological surgeons will adopt it.

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Sir,

I do not think Dr Ahmad is totally incorrect in saying that local anaesthesia has many advantages. In the past this was true, specifically in the Indo-Pakistan subcontinent, where the majority of stapedectomies were performed under local anaesthesia and also in certain centres in the West. But in recent years, as otosclerosis cases decline in number very few surgeons use local anaesthesia for surgery.

Stapedectomy by SFT is a very fine and delicate procedure. The dimension of the operative field i.e. the footplate, is only 3 x 1.4 mm. One is creating an opening of 0.6 mm size and inserting the prosthesis and vein graft. The other important thing to remember is that stapedectomy is not a life-saving operation and the patient can receive benefit by using a hearing aid for the rest of his life. Let me outline the advantages of performing this procedure under general anaesthesia.

1. First of all, modern anaesthesia is excellent with very few complications and is very safe indeed, and the majority of patients with otosclerosis are otherwise healthy young adults.
2. Performing a SFT stapedectomy in such a small area, the patient must remain very still and one cannot afford to take any risk to do this manoeuvre under local anaesthetic because a slight movement at a critical moment could cost the patient his hearing. In the case of general anaesthesia, the patient remains very still and with hypotensive techniques one can achieve maximum exposure of the operating field with relatively less bleeding.
3. During insertion of the prosthesis and vein graft, the surgeon is working in the vestibule (close to the labyrinth) and this manipulation can cause nausea, dizziness or even vomiting. If this occurs the procedure may have to be abandoned and anacusis may result, whereas this can be avoided if general anaesthetic is used.
4. Removal of the overhanging posterior meatal wall, often needed during stapedectomy, using a drill (pneumatic or electric) can be an unpleasant experience for the patient under local anaesthetic.
5. The injected local anaesthetic solution may trickle into the middle ear cavity and reach to the round window membrane. This solution may diffuse through the membrane and can cause nausea and dizziness which may last as long as 8 hours after surgery.
6. If the duration of the operation increases, local anaesthesia can be trying for both the surgeon and the patient. It is difficult for the patient to remain still for a long time and the slightest movement, which is greatly magnified under the operating microscope, can complicate the procedure.

The advantages of local anaesthesia are that an awake patient will be in a position to evaluate hearing change and that a dry operative field can be maintained, but it has never been a popular technique for major ear surgery.

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Effect of Bromocriptine on Pregnancy

Sir,

The recent article in your journal: ‘Effect of Bromocriptine on Pregnancy’ by Dr M. E. El-Sharief concluding ‘the result of this small study refutes the categorical misconception which was prevailing a few years ago that bromocriptine is teratogenic and should be stopped as soon as pregnancy is diagnosed’ is now of historical significance only and does not contribute any new information to the state of art in the use of this drug.

Previous data has clearly documented the safety of bromocriptine (BC) administration prior to, and continued through, gestation.1-5 No fetal abnormalities have been noted in 38 pregnancies reported in which the drug was given from 20 to 40 weeks gestation.2

Moreover, a review of 1410 pregnancies in 1335 women who received BC while pregnant revealed no evidence of dysmorphogenesis.1 In this large study the incidence of spontaneous abortion was 11% and that of congenital anomalies was 3.5%—no higher than that seen in the
general population. Information compiled by Ruiz-Velasco & Tolis on 1858 hyperprolactinaemic women on BC indicated that more than 80% of pregnancies reach term, and that abortion, multiple pregnancies and congenital anomalies do not differ from those in general population. A retrospective study of 64 children born to 53 mothers who took the drug while pregnant revealed no evidence of adverse influence on motor or psychologic development. The safety of the drug in pregnancy is so well established that currently it is recommended that BC be administered continuously during pregnancy in high risk patients such as those who harbour a macroadenoma.

The point of debate is not about the safety of BC administration during pregnancy; rather its proper use in pregnant women. Although the drug has an excellent safety record, it is generally agreed that the drug should be stopped once pregnancy is diagnosed. Our own data in patients with extra-sellar prolactinomas supports this prudent therapeutic action. In the data presented by El-Sharief there is no evidence to indicate that his patients needed the drug during pregnancy and its use may have been redundant. It stated that following discontinuation of BC the prolactin went up to a certain level and stayed at that level until delivery. This hardly provides a scientific rationale for continued use of the drug since it is well established that serum prolactin levels increase steadily during pregnancy under the influence of a progressive rise in placental oestrogens. Serum prolactin levels increase 10- to 20-fold by the third trimester reaching concentrations of 200–300 ng/ml and occasionally 600 ng/ml. The article clearly lacks data regarding a quantitative decline in serum prolactin level following BC administration, through 36 weeks of continued drug administration during gestation and a subsequent increase following discontinuation of the drug. A theoretical rationale of no beneficial effects of continued BC administration during pregnancy by stimulation of progesterone production by the corpus-luteum helping prevent early abortion hardly justifies the use of the drug late into pregnancy. Abrupt cessation of drug following conception has not resulted in abortions. Obstetricians and endocrinologists should realize the clear demarcation between safe and unwarranted use of drugs during pregnancy.

References

Ahmed M, Al-Dossary E, Woodhouse NJY. Extracellular macroadenomas: Effect of bromocriptine withdrawal during one or more pregnancies (submitted).

Non-Hodgkin’s Lymphoma in Pregnancy

Sir,

In a recent issue of Saudi Medical Journal (1991; 12(1): 32–36) Drs H. M. Ramadani, H. Abduljabbar and B. Al Ghazzawi described three interesting cases of non-Hodgkin’s lymphoma during pregnancy. Such cases are uncommon (only 32 cases were reported previously) and pose medical as well as ethical problems as regards their management. Termination or even delivery tend to accelerate the progress of disease and may end in a fatal outcome. Chemotherapy and radiotherapy are known teratogens. However the authors showed that chemotherapy did not affect the fetuses in their cases, nor did chemotherapy and/or radiotherapy affect the reported literature.

The authors also stated that performing abortion in the first trimester is in direct contradiction to our Islamic beliefs. This is simply not true. Islamic teachings allow abortion in the following circumstances:

1. at any time of pregnancy if the life of the mother is endangered;
2. at the first 120 days (computed from the start of conception and not from the last menstrual period), if the health of the mother is seriously endangered; or if the fetus is grossly malformed, provided a medical committee decides that these malformations are not amenable to treatment and will seriously compromise the physical and/or mental health of the expected baby, and that it would be a great burden to his family; 3. at the first 40 days of conception, if the health of the mother would be affected by continuation of pregnancy; or if there is a strong social reason such as rape.

The 120 days limit is taken, because it is considered as the time of ensoulment. No termination is allowed unless the life of the expectant mother is seriously endangered by pregnancy. Ibn Hazim, one thousand years ago, asked for proof to show that termination would really save the mother.

The most recent Fatwa in this regard is Decree No. 4, 12th session of the jurists conference of Muslim World League, held at Makkah AlMukaramah 10–17 February 1990, which clearly stated that termination of pregnancy is permissible at any time of pregnancy if the life of the expected mother is endangered. It also allowed termination prior to 120 days, if it is proved that the fetus is grossly malformed.

It is clear that Islamic teachings allow abortion and termination of pregnancy in certain conditions. There are some jurists who would allow abortion at 40 or even 120 days for minor social reasons. However the majority of our jurists would limit abortion to fairly serious cases.

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Sir,

We would like to thank Dr. Mohammed Albar for his interest in our article ‘Non-Hodgkin’s Lymphoma in Pregnancy’. His comments are highly appreciated as a specialist in Islamic medicine. Our statement ‘Abortion in the first trimester is in direct contradiction to our Islamic beliefs’ is a generalized statement without specification to maternal or fetal medical condition and Dr. Albar’s comments were quite educational for us. I am sure the readers will benefit from knowing the most recent

Fatwa regarding the Islamic rule and termination of pregnancy which was approved by the conference of Muslim World League, February 1990 which happened to be a few months after the submission of our article.

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Erratum notice: SMJ May 1991 issue—Vol 12 No. 3, page 221

Due to an unfortunate error when proofs were being corrected the Arabic summary on page 221 was removed and replaced by the summary for page 236. The correct summary for page 221 is shown below:

Ureteroscopy: One Year’s Initial Experience From One Centre

M. F. Milad, T. Zein, F. M. Ayyat, J. C. Everett, E. L. Simms

A review of one year’s initial experience, of rigid ureteroscopy, in Dhahran Health Center between November 1987 and October 1988 revealed 31 cases; most (84%) were performed for stone disease. Three procedures were performed to establish a diagnosis and two to dilate ureteral strictures after previous surgery. The overall success rate of the procedure was 87%. The overall success rate for the successful extraction of ureteric stone at the first session was 73%. Five cases required another procedure; viz extracorporeal shock wave lithotripsy in four cases, and one patient had a lower ureteral tear that required re-implantation. The diagnostic and therapeutic ureteroscopies for stricture disease were successful without any morbidity.