ANAESTHETIC MANAGEMENT OF TWO PATIENTS WITH MYALGIC ENCEPHALOMYELITIS

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SUMMARY
Two cases of Myalgic Encephalomyelitis (ME) / Chronic Fatigue Syndrome (CFS) have been described, who underwent regional anaesthesia along with general anaesthesia for gynaecological procedures, avoiding muscle relaxants. Both cases had uneventful recovery and post operative period. It is concluded that the regional anaesthesia is safe in ME / CFS patients and use of muscle relaxants can be avoided if general anaesthesia is also used.

Keywords : ME, CFS, Regional/general anaesthesia.

Introduction
Myalgic Encephalomyelitis (ME), also known as Chronic Fatigue Syndrome (CFS) is an illness which probably follows an infection, in a previously fit and active person. The infection is usually a viral illness (which may be subclinical) and hence, ME is also known as Post Viral Fatigue Syndrome (PVFS). However, in a minority, the illness has a gradual onset with no apparent triggering condition. The patient suffers from physical and mental, out of proportion to effort made, fatigue and exertion, psychoneurological disturbances like depression, short term memory loss, poor concentration, clumsiness, nominal aphasia or slurred speech, disequilibrium, poor temperature control, inappropriate sweating abnormalities of heart rate and rhythm, postural hypotention, abnormal micturition and unpredictable fluctuation of symptoms from day to day or even within a day. Hundreds of surgeries, routine and elective are being performed each year on CFS patients and they may present varied problems for anaesthesiologists. But surprisingly the literature provides very little information on the anaesthetic management of these patients. So here we present our experience with two such patients who came for surgery.

Case I
A sixty year old female patient weighing 64kg presented to the hospital for vaginal hysterectomy and pelvic floor repair. Her past history revealed presence of weakness of whole body especially of proximal muscles which used to become worse as the day progressed. She also had hyperthyroidism for which she underwent subtotal thyroidectomy following which she became euthyroid but symptoms of weakness persisted. Later she underwent through extensive tests for fatigue and muscle weakness including myasthenia gravis and was finally diagnosed as to have ME some twelve years ago. She was also a known hypertensive for the past fourteen years and has recently been diagnosed to have irritable bowel syndrome as well. Her medication included tab. enalapril 5 mg., nifedipine retard 10mg twice a day, tab. eltroxin 50 microgram, tab. promethazine 10 mg. and tab. codyramol and brufen on PRN basis. Her all investigations were within normal limits except mild degree of cardiomegaly in chest x-ray. Tab. temazepam 20 mg. orally was used as premedication about 2 hrs prior to the surgery. She appeared calm and comfortable in the operation theatre. Sub arachanoid block (SAB) was given at L3-4 space with 24 G sprotte spinal needle in sitting position using 3ml. of 0.5% heavy bupivacaine solution. She was made to sit for 5 min. and then made supine with slight head up position. Towards the end of the surgery the patient started complaining of uneasiness and started becoming very apprehensive so general anaesthesia was given using propofol 150 mg., fentanyl 50 microgram, and glycopyrrolate 0.2 mg. A size 3 LMA was inserted and anaesthesia was maintained with Oxygen, Nitrous Oxide and isoflurane.
Perioperatively she remained haemodynamically stable. The total surgical time was 1 hr. and 15 min. She recovered from anaesthesia gradually over a period of 15 min. She received a total of a litre of ringer lactate (RL) and a litre of 6% starch solution. For post operative pain relief she was given morphine on PRN basis. She was discharged on 5th post operative day without any complication.

Case II
A 22 yrs old female weighing 52kg came to the hospital for ovarian cystectomy. She was a diagnosed

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case of ME since last 4 yrs. She was initially investigated for myasthenia gravis but with negative results. She complained of easy fatigueability and muscle weakness of mainly lower limbs and was wheelchair bound since past one year. She was also having depression since last six months. She had general anaesthesia during childhood for some ENT procedure. Her preoperative investigations yielded no abnormality. She was premedicated with tab temazepam 10mg. orally one hour preoperatively. SAB was given taking all aseptic precautions with 25G (pencil point) spinal needle using 3ml of 0.5% heavy bupivacaine in sitting position and was made to lie supine with slight head up tilt. Later general anaesthesia was given using propofol, fentanyl and glycopyrrolate. LMA of the size 3 was used and anaesthesia maintained with oxygen, N₂O and Isoflurane on spontaneous ventilation. Her haemodynamics remained stable throughout the surgery which lasted for 50 min. She received 500ml of RL and 500ml of 6% starch solution during surgery. Post anaesthesia she recovered quickly with no pain. For post operative pain relief she was given morphine on PRN basis. She was discharged on 3rd post operative day in a satisfactory condition.

Discussion

Abnormally persistent or recurrent fatigue is a feature of many disorders. Recently particular attention has been devoted to people whose life is being dominated by protracted and disabling fatigue. These cases have been extensively investigated for various illnesses causing fatigue but were found negative for most of these diseases. Therefore these cases are usually categorized as chronic fatigue syndrome, the post viral fatigue syndrome or myalgic encephalomyelitis.¹ Females are affected much more frequently than males and most cases occur in the 20-30 years age group. The clinical manifestations although dominated by severe fatigue, encompass many other symptoms including cognitive, emotional and multisystemic symptoms, therefore attempts have been made to draw up precise and specific criteria for the diagnosis.² The chronic fatigue syndrome (CFS) seems the most acceptable label and myalgic encephalomyelitis not, as myalgia is certainly a feature, but there is no evidence of encephalomyelitis.

Chronic fatigue syndrome is not a muscle disorder, as careful physiological studies of Richard Edwards et al³ have firmly established that patients have central subjective fatigue and not a myopathic disorder. The muscle pain after exercise represents the phenomenon of damage to muscle fibres occurring during eccentric contraction in people who are persistently physically inactive.⁴ It is imperative to identify certain neurological diseases causing similar symptoms of chronic fatigue in many conditions such as primary sleep disorder, hypothyroidism, the Lambert Eaten syndrome, early multiple sclerosis or even frontal tumors.

Many patients have concurrent psychiatric disorder in which depression is the commonest and anxiety and somatization disorder being less frequent. However, depression may be secondary to chronic fatigue syndrome itself.⁵

Data obtained from a retrospective study from an objective assessment of aerobic work capacity of the patients with this disorder suggest that the underlying pathophysiological abnormality is a disorder of sleep.⁶ This results in not only profound fatigue and lethargy but also reduced sensory threshold for pain, disordered temperature regulation, cardiovascular abnormalities, disturbed higher cerebral functions and mental depression. Drugs which modulate sleep, such as tricyclic antidepressants have a limited effect in improving the symptoms whereas the drugs which affect the central nervous system neurotransmitters especially serotonin may have a potential in management of this condition.⁷ Studies by on the brain stem blood flow in such patients using positron emission tomography scans of people with ME was significantly lower as compared with healthy population or with patients suffering from depression.

These patients are best treated by advising rest and by altering life style to reduce symptoms. Sedative / hypnotics as well as the antidepressants may be needed from time to time. Further researches in CFS have demonstrated decrease in red blood cell magnesium level in patients with CFS and these patients when treated with MgSO₄ I.M sulphate injection (2ml of 50%) showed definite improvement in the symptoms as compared to the patients on placebos.⁸ Vitamin B₁₂ injections have also been tried but with ill sustained benefits.

In the guidelines defined in literature, advice against anaesthetics, immunization and antibiotics as they all have bad effects on patients with CFS, so these are to be avoided unless essential. But when anaesthesia requirement becomes unavoidable one should be careful in deciding the type of anaesthesia. We had chosen regional anaesthesia (SAB) for relaxation of the abdominal and perineal muscle and later supplemented it with general anaesthesia. Muscle relaxants were purposefully avoided because 1) patient herself requested against the use of muscle relaxants 2) In the absence of adequate evidence for its use in these patients, we did not want to take risk of prolonged post operative ventilation if needed due to relaxants use.
Both these patients tolerated the combination of regional and general anesthesia very well and recovered uneventfully. Patients with CFS must have received general anesthesia along with muscle relaxants for emergency or elective procedure but whether it delayed the recovery or whether the patients required post operative ventilation has not yet been reported. One of the causes for not reporting such cases may be delays in the diagnosis of such diseases. Many patients with CFS meet with skepticism and criticism by their doctors who just ignore the disease entity as malingering and hysterical. So it is essential to diagnose the illness early and give proper treatment for better chance of recovery. Experience with these two cases suggest that regional anesthesia may be used safely along with general anesthesia without using any muscle relaxants in these patients and recovery from regional anesthesia is similar to other patients. We need more documented cases to plan safe anaesthetic for these patients.

References

OBITUARY

DR. DIPAK KUMAR BANERJEE
After graduating from Calcutta National Medical College he secured MD (Anaesth.) from the Institute of Medical Sciences, BHU, Varanasi in 1976. He settled in private clinical practice in greater Calcutta.

Earned a good practice and a host of friends due to his efficiency in clinical work and very gentle behaviour to every one who met in his mundane journey.

Passed away after a long illness of cancer which he braved as a fighting soldier, leaving behind wife and only daughter and innumerable friends to mourn his loss.

May God give him eternal peace.

DR. S. KUMARAVEL M.D.D.A., Senior Life Member
(26-03-1952 to 01-01-2003)
The President and Member of ISA Erode City Branch condole the death of Dr. S. Kumaravel M.D.D.A., of Palani, Tamilnadu.

Pray almighty his soul may rest in peace.