

One-day Anaesthesia, Surgeons Delight

T Naresh Row *

Introduction

The most crucial aspect in the success of One-day surgery is anaesthesia.

No surgery is possible without anaesthesia. The shorter the anaesthesia, lesser the complications and faster the recovery. Most surgeons, who practice One-day surgery, would want to see their patient leave the hospital, safe and sound, on the way to recovery.

There has been tremendous advancement in the drugs used for anaesthesia, as well as the drug delivery modality. We have superior anaesthetic machines, which monitor as well as provide anaesthesia. The newer drugs are so precise, that the patient is awake almost as soon as the surgery is over, unless you want the patient to be under anaesthesia for a longer time!

History

Plato in the fourth century B.C., was credited with describing the effect of anaesthesia as 'a condition in which an impulse is not transmitted to or announced to the brain'. The term 'anaesthesia' is said to be a rough derivative of the effect of ether.¹

18th Century has seen the discovery and use of anaesthetic drugs, the derivatives of which, we are still using.²

The first inhalation gas, the famous 'Laughing gas'-Nitrous oxide and Ether, were used as early as 1772 and 1842.³

*Consultant Day Care Surgeon, Mumbai. Founder and Hon. Secretary, The Indian Association of Day Surgery, Editor, Day Surgery Journal of India.

Ether, was used to remove a tumour from the neck of a patient under its anaesthetic effect, the success of which was not publicized till after 7 years, in 1849.⁴

The most interesting piece of history is related to local anaesthesia, which is now the most widely used method form dental surgeries to regional blocks; it was derived from cocaine!⁵

Infiltration anaesthesia with cocaine was successfully demonstrated by C.I. Schleich in 1892.⁶

Discussion

Local anaesthesia, be it for dental extraction, or a complex regional block for thyroid surgery, would be considered to be the safest type of anaesthesia, from the safety and recovery of the patients point of view.

Most surgeons dislike the prospect of operating on a conscious patient, whereas, the anxiety level of most patient is more with the prospect of being operated under general anaesthesia.

When we consider the effects and side effects of general anaesthesia, except the heart, the body is totally paralysed and artificially controlled by the anaesthetist, the anaesthetic drugs and the anaesthesia machines. Your recovery is again based on medication and human efficiency. The patient recovers to symptoms of breathing difficulty, nausea, retching, vomiting, and stupor. Which means, monitoring, by the hospital staff, relatives or monitors, sometimes all the three, becomes mandatory. It also requires a status of 'nil-by-mouth' for at least 6 to 8 hrs.

Spinal or epidural anaesthesia are regional anaesthesia, which means, only the lower half of your body is paralysed. Spinal anaesthesia is moderately better than general anaesthesia. Transient hypotension is experienced most of the time. Also, 'Spinal Headache' requires you to be in a head low position for at least 8 hrs. postoperatively, paralysis of the lower limbs can be very unnerving to the patient. But, compared to general anaesthesia, it is far better, recovery wise.

Epidural anaesthesia is more specific, it blocks the 'sensory' part of our body, leaving the 'motor' functions normal. Here, we become more specific, in the sense, that the effect of general paralysis of your system is minimal, thus, a faster recovery. But, it can only be given by highly skilled anaesthetist.

To my mind, regional blocks, are the safest and surest way of ensuring a successful Day care surgery. There is a special requirement for the surgeons to learn the different blocks which they will be required to use on a daily basis. Which is not difficult, if you put your mind to it. Every speciality has specific local anaesthetic blocks which can be used for the safe and successful completion of the surgical procedure.

For example, Ophthalmology, the pioneers in Local blocks, have mastered the art of giving retro-bulbar block, which takes care of most of their surgical procedures.

Concerns and solutions

Anaphylactic reaction to local anaesthesia sometimes makes surgeons want to try a test dose pre-operatively, but, it necessitates a test dose to be administered in the ward, which also, can give rise to a reaction in sensitive patients. The best place to give a test dose is in the OT, where all the emergency precautions and measures are in place.

Most surgeons and some patients do not like to be operated in the conscious state, this can be easily tackled by sedating the patient. It also helps in the procedure of injecting the local, as sedation can lessen the pain of the needle prick.

Anxiety of surgery sometimes necessitates administration of a sedative or anxiolytic as a pre medication on the previous night, or early morning if the surgery is likely to be delayed. This is very useful in children.

Post operative nausea and vomiting is much less in local anaesthesia.

Post operative pain can be reduced to a large extent with longer acting anaesthetics like bupivacain mixed in the infiltrate.

Failure of blocks are sometimes encountered due to several reasons, even in the experts hand, there are times when the block does not hit the required spot, or the bulk of an obese patient sometimes causes a loss of anaesthetic agent in the sub-cute fat. The concerned surgeons may use inadequate amount of the anaesthetic agent, due to fear of over use of the local solution. An over anxious patient may require more time for the anaesthesia to act or additional sedation. Adjusting the dose as according to the weight of the patient will, to some extent, reduce this concern. Preparation of the patient and your self for a short GA, in all probability will take care of this uncommon happening.

Summary

In a completely prepared and convinced patient, surgeries under local anaesthesia, makes Day care surgery a complete success, therefore, making it a delight of every surgeon.

References

1. Bowen CD. Yankee from Olympus. Boston, Little, Brown & Co., 1945, p.92.

2. Mead RH. An Introduction to the History of General Surgery. *Anaesthesia* 1968; 7:73-83.
3. Beecher HK. Anaesthesia: Fifty years of progress. *Int. Abstr Surg* 1955; 101:105-39.
4. Long C. An account of the First use of Sulphuric Ether as an Anaesthetic in Surgical Operations. *South Med Surg* 1849;5:705-13.
5. Mollier D. Note sur letherization par la voie rectale. *Lyon Med* 1884;45:419-22.
6. Schleich CI. Zur infiltrationsanasthesie. *Ther Mh Berlin* 1894;8:429-36.

SCREENING FOR DIABETES AND PREDIABETES

We welcome the attention given to prediabetes (impaired glucose tolerance and impaired fasting glucose).

Impaired glucose tolerance increases the risk of cardiovascular disease by about 60%, and impaired fasting glucose does the same by around 30%. Furthermore, for every person with diabetes, there are four with prediabetes. Although almost half of those with prediabetes progress to diabetes, this process can be prevented or slowed by diet, exercise, and several drugs that are used to treat diabetes.

An oral glucose-tolerance test is widely presented as a burden for patients and has poor reproducibility. Glycosylated haemoglobin (HbA_{1c}) is *not* part of the formal diagnostic criteria for impaired fasting tolerance, impaired glucose tolerance, or diabetes, but correlates with all three and is used to monitor management of glycaemia.

Waugh and colleagues suggest that more people would be tested and identified at risk if HbA_{1c} was used rather than glucose tests, and suggest a cut-off HbA_{1c} of 5.9% to identify diabetes and most prediabetes. The gain from this more convenient test and consequent increased uptake by patients could outweigh any disadvantages of the HbA_{1c} test.

How often should screening be done if the initial screen is negative?

Tim Kenealy, C Raina Elley, Bruce Arroll, *The Lancet*, 2007; 370 : 1888-89.