

Challenges in an isolated remote eye setup- A bird's eye view from an anaesthesiologist perspective

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Among the most frequent surgical eye disorders in India are squint and cataract among the paediatric and elderly age group respectively, and both age groups have distinct physiologies. The difficulties encountered by an anaesthesiologist in an isolated eye setup may stem from ophthalmic hospital (single specialty) setup, ophthalmologic operation theatre setup, systemic condition of the patient, eye condition, prerequisites condition for eye surgery, regional block related difficulties, lack of proper/standard training for practise in regional block, high-volume cataract surgeries and setup, etc.

In remote setup, there may not be a designated post-anaesthesia care unit, thus patients may need to be monitored in the operating room (OR) itself, until they are fully recovered. Situations such as anaphylaxis, seizures caused by local anaesthetic toxicity, and negative pressure pulmonary oedema imply that patients may be placed on ventilators and require

specialised ICU equipment that may not be available with remote access or stand-alone eye setups. It is possible that a patient may have to wait longer for a referral to a higher centre due to a lack of transportation or an ambulance.

Another problem we confront as anaesthesiologists is the relative lack of advanced monitoring. While such advanced monitoring is rare, it may be necessary in elderly high-risk patients, particularly those with heart diseases or valvular abnormalities. Lack of trained anaesthesia technicians and frequent shifts between the OR and wards can be a difficult condition in remote setups where people are reluctant to work.

In single speciality practise, physicians may conduct preoperative assessment in the anaesthetic clinic two to three days before surgery. Patients travel further from the eye hospital if they require a specialist's opinion or extra investigations, in contrast to a multispecialty hospital. It is tricky for the accompanying physicians and anaesthesiologist to explain the importance of such specialised tests to patients. Not only is it time-consuming, but it also costs them extra.

Thus, lack of available specialists such as cardiologist, paediatrician, neurologist, nephrologist, etc.

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is one of the major impediments an anaesthesiologist faces during preoperative assessment in a single specialty ophthalmic hospital. There may be a dearth of facilities for conducting specialised examinations like echocardiography.¹ There may be scenarios of uncontrolled HT, bronchial asthma, and uncontrolled diabetes. Multiple co-abnormalities, such as VSD, TOF may co-exist with congenital cataracts and may require an expert anaesthesiologist and a backup of cardiac facilities in case of complications or mishaps.

Similarly, in the event of a complication or unpleasant occurrence during eye surgery, anaesthesiologists can offer both basic and advanced life support during the golden hour, but they must be moved by ambulance to a nearby multi-specialty hospital for further management. Furthermore, some patients believe that revealing symptoms or signs such as chest pain, palpitations, or syncope could result in the cancellation or postponement of surgery. This behaviour is influenced by a lack of health awareness, and such a history may not be disclosed even when explicitly questioned. Due to ignorance and illiteracy, preoperative counselling must be administered with extreme care and precision. Before beginning treatment for needle block, the problems must be discussed in their local language.¹ The significance of remaining still and following instructions during surgery must be highlighted strongly. Proposed solutions for such challenges include upgrading existing systems/equipment, such as advanced hemodynamic monitoring equipment, a newer generation of supraglottic airway devices, and the availability of all emergency drugs and equipment for difficult airways, such as a fiberoptic airway device and a video laryngoscope.

It is also important to understand when one should refer patients to seek expert opinion. It is critical to understand one's own limitations as well as the limitations of the setup in which one is working. It is necessary to recruit trained personnel with adequate experience, as well as to retain personnel who have been trained under your supervision. There should be at least one high dependency care unit that can be easily converted into an intensive care unit based on the need, as well as one dedicated PACU with the availability of a trained nurse who is familiar with recovery criteria and monitoring. If an HDU/ICU cannot be established, referral and transport facilities to the nearest tertiary care setup or hospital where such services can be provided should be available.

Above all, these patients may not be accompanied by a relative and have impaired vision, sedation is administered with caution. Before surgery, it is essential to obtain the relatives' contact information, as they must be notified in the event of any complications or unexpected incidents. For successful outcome of eye surgery, a thorough preoperative assessment and optimization of medical conditions is essential.

Reference

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