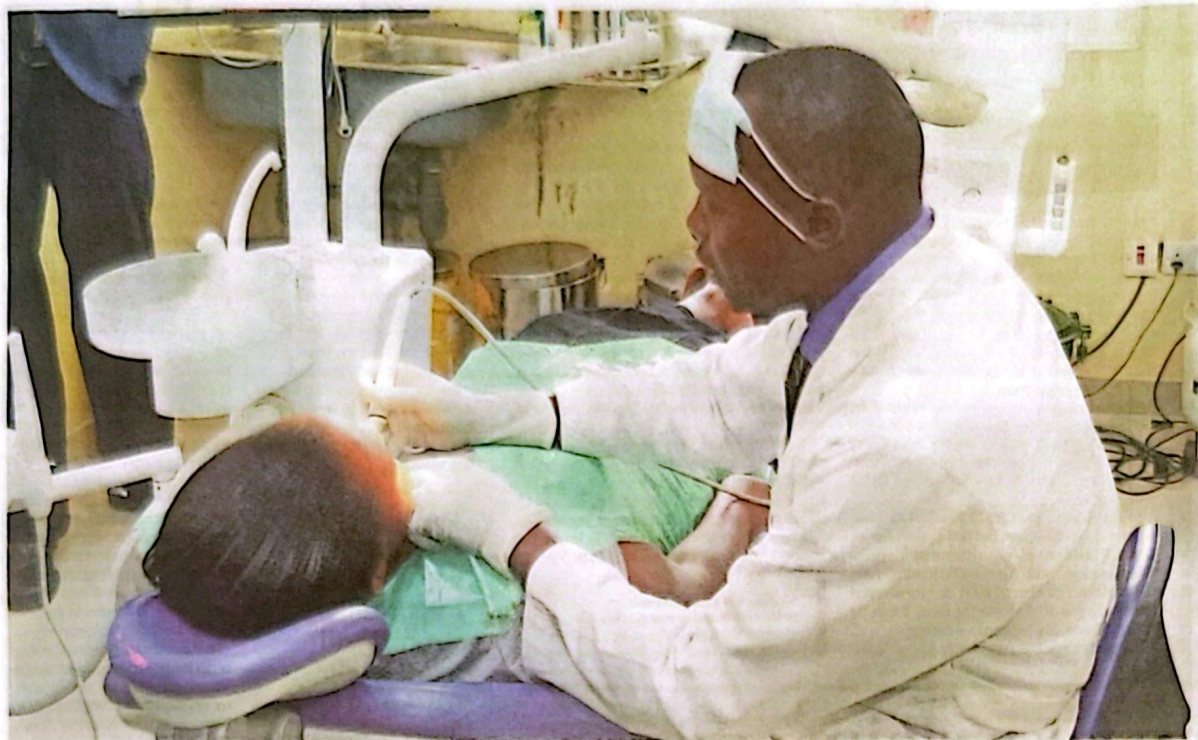


Causes of death associated with surgery



A dentist attends to a patient at Kisenyi Health Centre. Minor surgery refers to low-risk, minimally invasive procedures typically performed under local anaesthetic and on an outpatient basis. PHOTO/FILE

Failure to prepare a patient for surgery can have disastrous effects. A common instruction given to patients before any major surgery is to fast overnight. This is to ensure that the stomach is empty at the time of the operation.

BY DR SYLVESTER ONZIVUA



On October 14, 2010, a 34-year-old woman died in a prestigious private hospital in Kampala at the beginning of a major surgical operation to remove a single fibroid from her uterus. The planned procedure used to remove the fibroid was laparoscopic surgery. The patient died at the beginning of the procedure.

On January 8, 2015, a Senior Four student on vacation complained of pain in his lower abdomen, and he was taken to a regional referral hospital, where he was examined and a diagnosis of a reducible right scrotal-inguinal hernia was made. Minor surgery was recommended to correct the defect, and the operation was scheduled for January 15, 2015. On Wednesday, January 14, 2015, the patient came to the hospital to confirm the date of the operation. On that day, however, the doctors decided to conduct the surgery.

The patient was examined at 12.30pm and by 2.30pm was already

ready prepared for surgery. The operation started at 5pm and ended at 6.30pm and the patient was wheeled to the general ward at 7.40pm. According to the medical notes, the patient was to be kept on oxygen and his pulse rate, blood pressure and temperature monitored until these parameters became stable. The first observation was done at 7.50pm, then another at 8pm and the last at 8.20pm. The patient, however, died at 8.30pm.

Minor surgery refers to low-risk, minimally invasive procedures typically performed under local anaesthetic and on an outpatient basis and is often done in minor theatres or even in clinics. Patients usually recover within short periods of time. Such procedures include suturing of wounds, removing cysts and other superficial swellings.

Major surgery, on the other hand, is typically more complex, involving invasive procedures and is associated with higher risks such as significant blood loss and requires general or regional anaesthesia. Patients must be examined before surgery and must be deemed fit for anaesthesia and the surgery, and appropriately prepared. In case of major surgery, this involves a thorough pre-anaesthetic evaluation. Patients

must also be informed of significant risks of the surgery and must consent, in writing, to the surgery, including the risks.

Failure to prepare a patient for surgery can have disastrous effects. A common instruction given to patients before any major surgery is to fast overnight. This is to ensure the stomach is empty at the time of the operation. Patients may sometimes vomit during surgery, and this can lead to aspiration of the stomach contents into the lungs, which can sometimes be fatal. This is what caused the death of the Senior 4 student who underwent the hernia operation.

The most unfortunate outcome of surgery, major or minor, is death. These deaths may be the result of the condition for which the surgery was performed, or a surgical mishap, or as a result of an undiagnosed medical or surgical condition, or they may be complications of anaesthesia or its administration, or as a result of an unpredictable event or circumstances. Deaths that are associated with surgery or a medical procedure are not deaths due to natural causes, and in most jurisdictions, a forensic post-mortem examination must be conducted.

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Most deaths that result from the condition for which the surgery is performed are usually emergencies that already have complications, such as infections or electrolyte imbalances or where there is already significant blood loss.

Surgeons may accidentally puncture a blood vessel during an operation. In most cases, the bleeding that results is usually arrested, and the damaged vessels sutured. Uncontrolled bleeding is a major cause of fatalities associated with surgery. It is for this reason that blood is usually booked for a patient before any major surgery. The situation is worse if the patient develops complications that will lead to blood failing to clot. Patients must be closely monitored, especially immediately after surgery, to determine if they are not losing blood. Most of the patients who lose their lives due to blood loss after surgery are those who are poorly monitored or those who are not monitored at all during and after the operation.

Most deaths associated with surgery are related to anaesthesia and its administration. There are two types of anaesthesia associated

with major surgery, and these are general anaesthesia and regional anaesthesia. Patients need to be informed of the available choices of anaesthesia, and they should make an informed decision about the type of anaesthesia to be administered to them.

General anaesthesia is a medically induced, reversible state where a patient is unconscious and feels no pain during the surgical procedure. It requires breathing support and continuous monitoring of the patient's vital signs. A breathing tube is often inserted into the airway as the medications administered during the operation can make the patient stop breathing on their own.

There may be catastrophic failures during the administration of anaesthesia, and these may include failure to pass the breathing tube into the airway, passing the tube through the oesophagus into the stomach, disconnections of the tube or blockage of the tube for whatever reason. These will lead to suffocation and death of the patient. The patient with fibroids who died at the beginning of the surgery died because the breathing tube was inserted into her stomach instead of her airway, and died of lack of oxygen. She also subsequently had very light anaesthesia that triggered the slowing of her heart.

General anaesthesia must neither be too light nor too deep. Very light anaesthesia can lead to spasm of the airways with subsequent obstruction of the airways and suffocation of the patient. Very light anaesthesia may also disrupt the nerve impulses going to the heart, especially when sensitive parts of the body are manipulated during surgery, and this is manifested as a slowing down of the heart rate. When urgent measures are not instituted, the heart will stop.

Regional anaesthesia is a type of pain relief that numbs a specific, large part of the body such as an arm, a leg or everything below the waist, by injecting local anaesthetic near the nerves. It allows patients to remain awake or slightly sedated during surgery. The anaesthetic agent is delivered via an injection near a nerve bundle. Spinal anaesthesia is a common type of regional anaesthesia where a fast-acting regional anaesthetic is injected in the space surrounding the spinal cord (technically known as the subarachnoid space that contains the cerebrospinal fluid) to numb the lower part of the body. It is commonly used for gynaecological or abdominal procedures. One of the feared complications of spinal anaesthesia is low blood pressure, which can fatally affect the heart. And when bleeding occurs in the subarachnoid space, it can be dangerous and fatal.

Epidual anaesthesia is another type of regional anaesthesia where the anaesthetic is administered outside the spinal cord lining. It is commonly used for pain relief during labour and for caesarean sections and other abdominal surgeries. It has also been associated with the side effects of low blood pressure and nerve damage.

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