

Monitored Anesthesia Care

A Nguyen

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Abstract

INTRODUCTION

Medicine offers four types of anesthesia, including local, regional, general, and monitored anesthesia care (MAC). This paper distinguishes MAC from other anesthesia types, explains MAC's use, and highlights issues patients can anticipate when undergoing MAC.

WHAT DISTINGUISHES MAC FROM OTHER TYPES OF ANESTHESIA?

General anesthesia and MAC are distinguished from local and regional anesthesia by the use of sedatives and other agents, which are introduced mainly intravenously or as inhalants. In contrast, local and regional anesthetics are limited to the use of local anesthetics.

Local anesthesia provides numbness to a small area limited to where local anesthetic is injected. Regional anesthesia such as epidural, spinal, and other methods provide numbness to much larger areas because of the nerve blocks involved. General anesthesia is a deep state of sleep where the patient loses consciousness and sensation and usually requires assisted ventilation. Like general anesthesia, MAC uses sedatives and other agents, but the dosage is low enough that patients remain responsive and breathe without assistance. MAC is often used to supplement local and regional anesthesia, particularly during simple procedures and minor surgery.

MORE ABOUT MAC

The purpose of a MAC is to provide the patient with anxiety relief, amnesia, pain relief, comfort, and safety during the procedure. MAC can be requested for patients undergoing uncomfortable procedures and minor surgeries which do not require general anesthesia. MAC is usually ordered by the physician performing the procedure, by the primary care physician of the patient, or requested by the patient himself if he is unable to lie still for the procedure. MAC is sometimes used alone for nonpainful procedures and often to

supplement local anesthetic injections for painful ones. During MAC, the patient is sedated and amnesic but always remains responsive when stimulated to do so. The patient is in a light sleep and may or may not wake up from time to time during the procedure even if he does not remember doing so. The patient breathes on his own and ventilation is not assisted as in general anesthesia. The patient is usually awake at the end of the procedure and can readily be discharged from the recovery room. When undergoing a procedure with MAC, the patient is evaluated and monitored in the same manner as if he is having any other form of anesthesia.

GETTING READY

Prior to the procedure, the anesthesiologist will interview the patient about his general health. Pertinent information will include the patient's current medical history, medications, allergies, and past medical, surgical and anesthetic history. This evaluation may be done over the phone or the patient may come to the clinic to be examined. Old medical records are also reviewed and lab tests may be needed. Instructions for taking medications, restrictions on eating and drinking prior to the procedure are also given at this time.

WHAT TO EXPECT DURING THE PROCEDURE

On the day of the procedure, an intravenous line (IV) will be placed in the patient through which medications can be given. The anesthesia care provider (the anesthesiologist, nurse anesthetist, or the anesthesia team consisting of both) may give the patient a sedative prior to entering the operating suite. Once in the operating suite, monitors will be placed on the patient to measure his vital signs which include blood pressure, heart rate and rhythm, oxygenation and respiration. Supplemental oxygen may be given if indicated. Further sedation is then given and the procedure begins. Anesthesia medications mainly include sedatives for anxiety relief and amnesia, opioids and local anesthetic for pain relief, and antiemetics for treating nausea and vomiting.

Other medications needed to treat any existing medical condition such as diabetes, high blood pressure, etc., may also be given. Depending on the type of procedure and the medical condition of the patient, the anesthesia care provider will choose the appropriate medication. Local anesthetics are often given as local injections or as nerve blocks by the surgeon or anesthesiologist. When used with local anesthesia, numbness at the surgical site provided by the injections is the main pain reliever. MAC may range from a mild sedation to a deeper sleep. The patient may or may not wake up from time to time during the procedure when he is stimulated. He may or may not remember the experience but should remain comfortable throughout the procedure. The sedatives and opioids can make the patient drowsy and may slow down his respiration. To ensure the patient's comfort and safety, the anesthesia care provider continuously monitors the patient's vital signs and verbal response throughout the procedure. Side effects from anesthetic medications to watch for include prolonged sedation, agitation, confusion, nausea, vomiting, and respiratory depression.

END OF PROCEDURE AND DISCHARGE

At the completion of the procedure, the patient should be easily arousable and is taken to the recovery room or post anesthetic care unit (PACU). He spends about 30 minutes or more there and continues to be monitored by the PACU staff for residual anesthetic effects. The patient is discharged from the PACU when his functioning level has returned to his pre-sedative state. If the patient were to stay in the hospital, he is promptly discharged to his room as long as his vital signs

and mental function remain stable. If the patient were to go home, in addition to being stable, he has to first drink, void, and function with little assistance (if he were able before). Since the patient has been given sedatives, the patient is advised not to operate any machinery, go to work, make any major decision, sign any legal document, nor drink alcohol for the rest of that day. In addition, he should have someone to assist him in getting home and watch for any lasting sedative effect or unexpected problem. Often times, the medical staff will not discharge a patient home by himself without assistance. Clear follow-up instructions and appropriate contact phone numbers are also given at this time.

CONCLUSION

MAC provides safe sedation for patients undergoing uncomfortable procedures and minor surgeries. Like any other form of anesthesia, the patient should be just as carefully evaluated and monitored before, during and after the procedure to ensure his safety and comfort. The patient quickly recovers from MAC and this allows for a timely discharge. If the patient should have any question concerning his care under MAC, he should never hesitate to discuss them with his anesthesiologist.

References

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Author Information

Anh-Thuy Nguyen, M.D.