

Title: The use of Gertie Marx Spinal Needle for Tubal Ligation in Postpartum Patients
Author: Jackson JL, M.D.; Ravindran RS, M.D.
Affiliation: Department of Anesthesia, Indiana University School of Medicine, Indianapolis, IN 46202

Introduction: It has been known that spinal anesthesia, when administered with the use of pencil-point needles, is associated with greatly reduced incidence of post lumbar puncture headache (PLPH). Currently, there are three pencil-point needles available on the market, namely, Whitacre, Sprotte (modified Sprotte), and Gertie Marx (GM). We evaluated the Gertie Marx spinal needle in terms of the ease of use, success rate, and the incidence of PLPH.

Methods: Utilizing GM needle (International Medical Development Inc. 24 G, 91 mm or 101 mm) spinal anesthesia was performed, in 182 consecutive patients who underwent postpartum tubal ligation procedure. The patients' ages ranged from 21-27, height from 60-68 inches and weight from 90-270 lb. Spinal anesthesia was performed by multiple residents in training. Spinal anesthesia was done at L3-L4 interspace with the patient in the sit-up position. A mixture of 65-90 mg of 5% lidocaine (depending on the height of the patient) premixed with dextrose 7.5% plus 25 µg of fentanyl was used as the spinal anesthetic. If the block was inadequate, a repeat spinal insertion was made (with GM needle) and an additional 50 mg of lidocaine was administered. In some cases, when successful tap could not be accomplished with GM needle, further attempts were made utilizing 25 G spinal needle (Quincke point [BD]). A day or two later, they were interviewed on the phone by a secretary and asked whether they had any complaints. Then they were asked whether they had headache and, if so, the nature of it, and the intensity of it on a scale of 1-5.

Results: Successful spinal anesthesia was accomplished in 162 patients with the first placement of GM spinal needle. In seven patients, upon recognition of inadequate block, an additional 50 mg of lidocaine was injected with the second placement of the needle. In 11 patients successful placement of the GM needle could not be accomplished. However, spinal anesthesia was instituted with the use of 25 G Quincke needle. In 2 patients spinal anesthesia could not be accomplished at all. Only one patient developed PLPH. She was successfully treated with the placement of autologous epidural blood patch. The spinal puncture characteristics were very unique with this needle. There was a distinct "pop" on entry through the dural arachnoid layer. The outflow of the spinal fluid through this needle was quick and readily noted.

Discussion: In an earlier study, conducted at this institution (involving nearly 500 postpartum patients), utilizing 25 G Quincke spinal needle, the incidence of headache was noted to be about 4%. The incidence of inadequate block requiring a repeat of the spinal procedure was noted to be about 4%. Seven out of the 11 patients in whom successful spinal anesthesia could not be accomplished with GM needle in this study were noted to weigh >220lb.

Conclusion: The incidence of PLPH following spinal anesthesia with GM needle is indeed very low (<1%). It might be more difficult to accomplish a successful block in moderately obese patients.