

UTILIZATION OF COMBINED SPINAL EPIDURAL FOR TOTAL KNEE ARTHROPLASTY IN PATIENT WITH HYPERTROPHIC OBSTRUCTIVE CARDIOMYOPATHY

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CASE INTRO:

68 year old female presents for Total Knee Arthroplasty

PMH: HOCM, SAM, HTN, Asthma, OSA, and Morbid Obesity

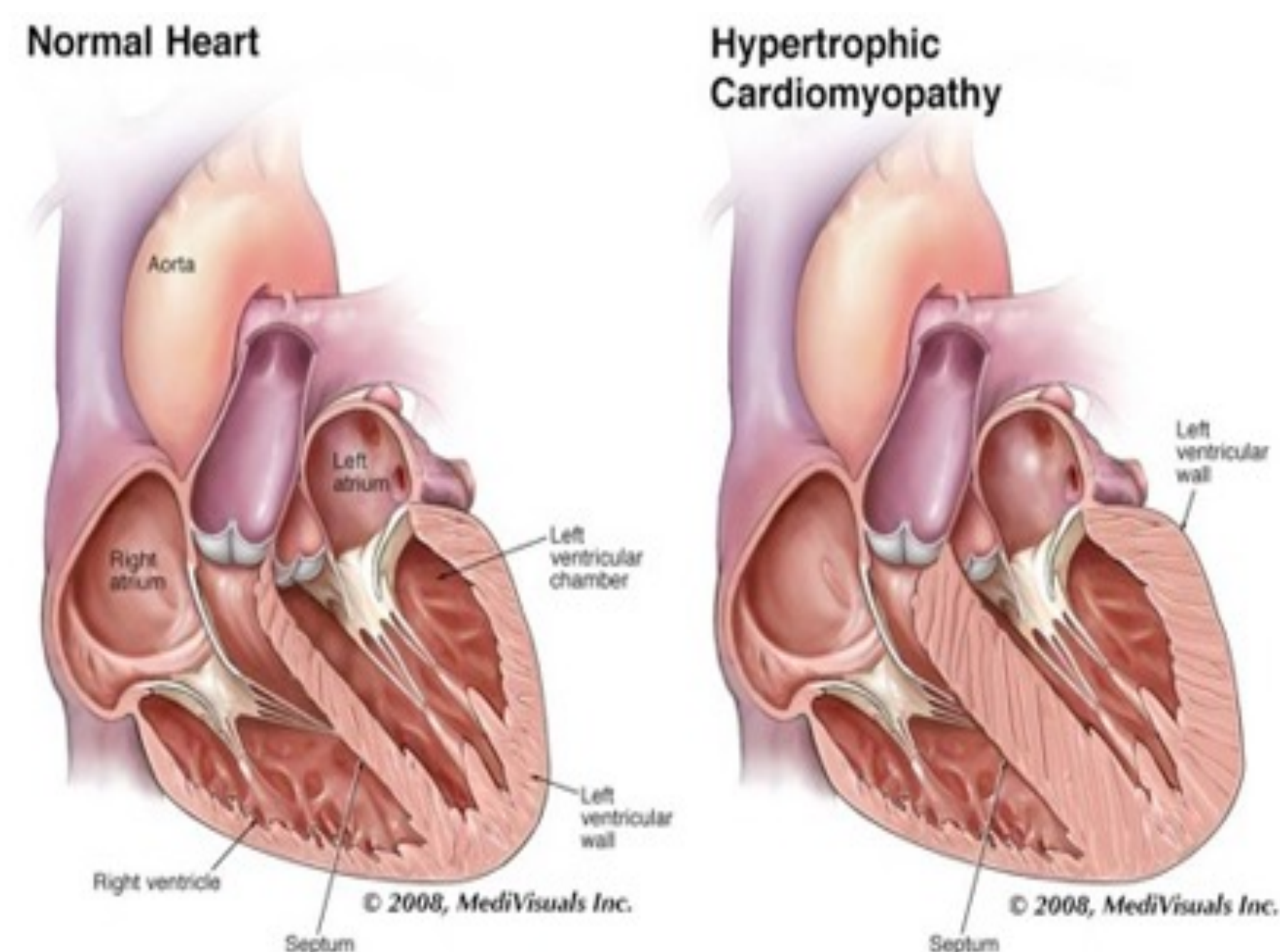
Medications: mavacamten, metoprolol

First Echo: Basal anteroseptal wall thickness 1.6 cm, LVOT gradient with valsalva 160 mmHg, LVEF 65%

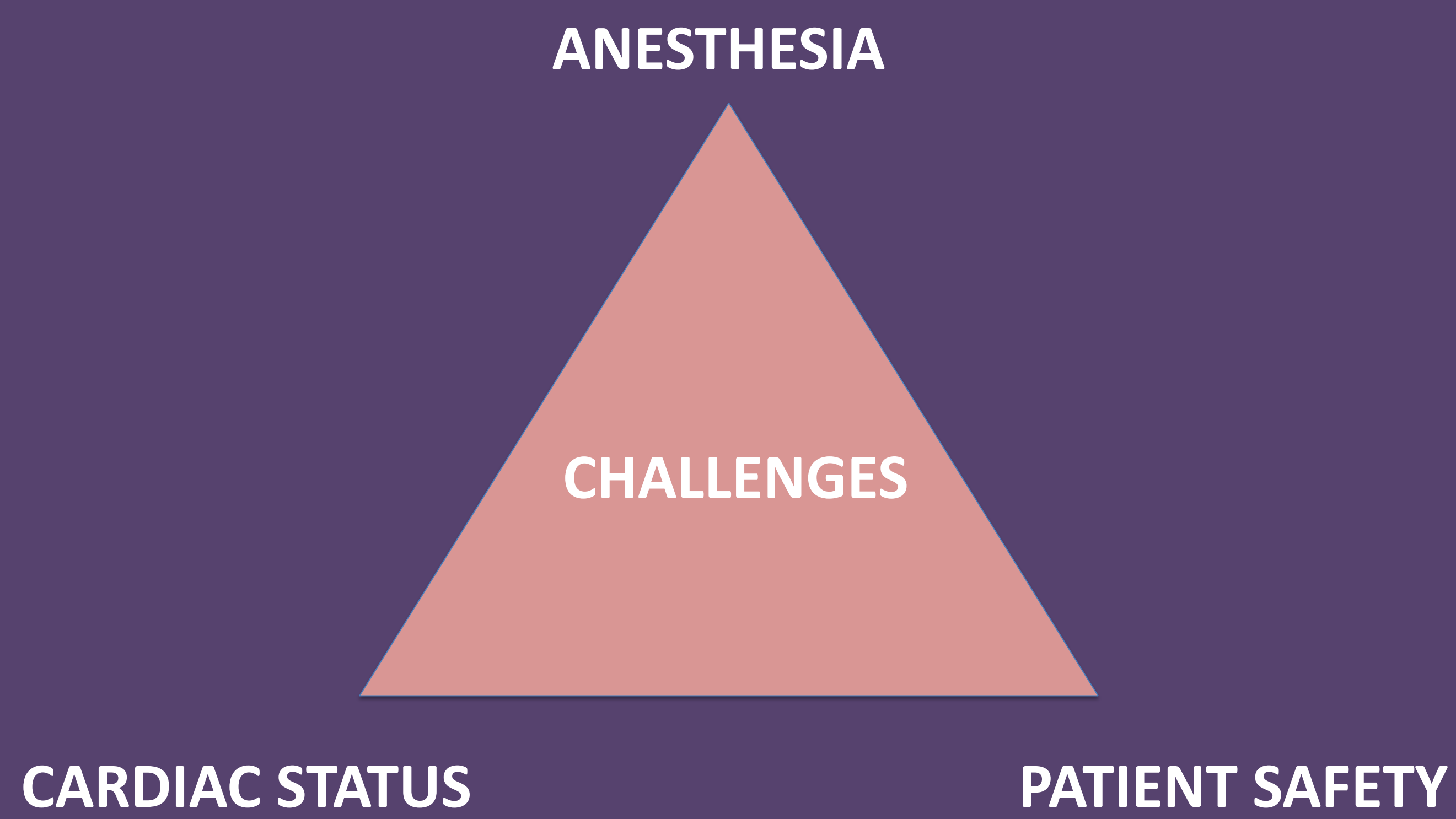
Second Echo (after initiation of mavacamten): Basal anteroseptal wall thickness 1.6cm, LVOT gradient with valsalva 32 mmHg, LVEF 67%

ANESTHETIC PLAN:

- 1) Extensive Pre-op evaluation
- 2) Pre-op arterial catheter
- 3) CSE intrathecal dose of 8mg 0.5% Bupivacaine
- 4) Sedation with Propofol ggt
- 5) Case concluded uneventfully without the need to re-dose the epidural



Case Report of Combined Spinal Epidural for a HOCM Patient in the Outpatient Setting



DISCUSSION:

- HOCM preoperative workup should include EKG, echo, and a functional status assessment
- Evaluation for systolic anterior motion of the mitral valve
- Anesthetic factors that worsen LVOT obstruction include reduced preload, reduced afterload, increased contractility, and arrhythmias
- Historically, there was a concern for sympathectomy following neuraxial procedures, however with careful preparation, and appropriate dosing, it can be a safe anesthetic option
- Benefits of performing TKA under spinal include reduced readmission rate, infection rate, and revision rate
- Anesthetic alternatives include IT catheter and GETA

REFERENCES:

- 1) Vives M, Roscoe A. Hypertrophic cardiomyopathy: implications for anesthesia. *Minerva Anestesiologica*. 2014;80(12):1310-1319
- 2) Gajewski, M., & Hillel, Z. (2012). Anesthesia management of patients with hypertrophic obstructive cardiomyopathy. *Progress in Cardiovascular Diseases*, 54(6). 503-511.
- 3) Okutomi, T., Kikuchi, S., Amano, K., Okamoto, H., & Hoka, S. (2002). Continuous spinal analgesia for labor and delivery in a parturient with hypertrophic obstructive cardiomyopathy. *Acta Anesthesiologica Scandinavica*, 46(3), 329-331
- 4) Heckmann, N. D., De, A., Porter, K. R., & Stambough, J. B. (2023). Spinal versus general anesthesia in total knee arthroplasty: Are there differences in complication and readmission rates? *The Journal of Arthroplasty*, 38(4)
- 5) Perlas, A., Chan, V. W., & Baeattie, S. (2016). Anesthesia technique and mortality after total hip or knee arthroplasty. *Anesthesiology*, 125(4), 724-731