The Effects of Pregnancy on Postoperative Complications in Tibia and Femur Diaphyseal Fractures

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Purpose: Our objective was to determine if a difference is present in deep vein thrombosis (DVT), pulmonary embolism (PE), surgical site infections (SSIs), and nonunion/malunion correction after intramedullary nailing (IMN) of the tibia or femur in women who are pregnant compared to those who are not.

Methods: Females between the ages of 18 to 50 years old who underwent IMN of the tibia (CPT 27759) or the femur (CPT 27506) were isolated through the PearlDiver database. Patients who were pregnant at the time of IMN were determined by who had an ICD-10 diagnosis codes of pregnancy within 9 months of the IMN CPT code and did not have a CPT code for childbirth within 9 months prior to the IMN CPT codes. DVT, PE, and SSI rates within 1 year of IMN were determined through the use of ICD-10 diagnosis codes. Nonunion/malunion correction rates within 2 years and 5 years were determined through the use of CPT codes.

Results: Of the 53,825 patients who underwent IMN of the tibia, 97 (0.18%) were pregnant. Of the 54,335 patients with IMN of the femur, 74 (0.14%) were pregnant. The pregnant cohort showed higher rates of DVT (5.3% vs 2.35%, P = 0.01) and PE (3.5% vs 1.5%, P = 0.04) and lower rates of SSI (1.75% vs 6.03%, P = 0.02) compared to the non-pregnant cohort. No statistically significant difference was seen in nonunion/malunion correction rates at 2 years (0.58% vs 2.84%, P = 0.08) or 5 years (0.58% vs 3.02%, P = 0.06), but decreased rates were still seen in the pregnant cohort.

Conclusion: Pregnant patients were seen to have decreased rates of SSI and nonunion/malunion correction with the latter approaching statistical significance, but with increased rates of DVT and PE. This is the first study that we are aware of that looks at this specific cohort of patients and shows potential benefits to patients.