Use of Poly(ether ether ketone) Cages in Foot and Ankle Surgery


THIS PAPER demonstrates an interesting treatment using PEEK-OPTIMA® cages (for fusion and lengthening) in foot and ankle surgery where previous treatment approaches have associated challenges and complications that could be alleviated / minimized. Between 2009 and 2010 the Instituto Dupuytren implanted 32 PEEK-OPTIMA cages in 22 patients who required fusion and column lengthening procedures. These cages were designed specifically for foot and ankle surgery by Equimedica SRL. Box style cages (for cavity and height loss) and wedge style cages (for column lengthening and fusion) were produced in four different sizes each. Of the 32 cages implanted the wedge shape cages saw the most use (15 lengthening and 13 fusion) and the box shape cages were used only in failed Keller procedures (4 cases).

After implantation 22 patients were evaluated with x-ray, CT and clinically. 21 patients saw bone fusion in an average of 14 weeks while 1 patient had a delayed union (20 weeks), which was caused by the cage migrating dorsally as well as two successive stress fractures at 6 and 9 months that went on to heal when treated conservatively.

The authors conclude that PEEK-OPTIMA cages could offer an attractive option over structural bone grafts in foot and ankle surgery due to high fusion rates. Additionally the radiolucent nature of PEEK-OPTIMA allows for a better assessment of fusion and could decrease the complications typically associated with structural bone grafts.
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