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Title

Suture-only technique in the bony reconstruction of thumb polydactyly

Purpose

Deviation deformity is present in thumb polydactyly. Osteotomies are performed during surgical reconstruction to restore skeletal axial alignment. K-wires are routinely used for fixation. In our experience, pin tracks can become infected, especially in hot and humid environments. K-wire removal is also unpleasant for the child. This study describes our experience of a suture-only technique of osteosynthesis in reconstructing Wassel type IV or V thumb polydactyly.

Methods

Children who had thumb reconstructions using this technique with a minimum of 6-months follow up were studied retrospectively. Transverse or oblique wedge osteotomies of the 1st metacarpal were performed. At least 3 sets of Vicryl 5/0 or PDS 4/0 were placed through bone tunnels and the metacarpal bone fragments were sutured together. K-wires were not used. Boxing glove dressings were changed weekly for a total of 3 weeks. Thumb X-rays were performed at 1, 2 and 6 weeks, and 6 months postoperatively. Bony displacement was the primary outcome measured.

Results

There were 16 cases between 2003 and 2017. Surgeries were performed at a mean of 15.5 months (range 7 to 40) of age. 15 thumbs were Wassel type IV and 1 was type V. There were 8 transverse closing wedge osteotomies and 8 oblique wedge osteotomies. There were no surgical wound infections. Union was achieved at 6 weeks postoperatively without any displacement of the metacarpal fragments.