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ABSTRACTS

Fassier-Duval
Telescopic IM System™

Fassier-Duval Rods are Associated With Superior Probability of Survival Compared With Static Implants in a Cohort of Children With Osteogenesis Imperfecta Deformities

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Background:

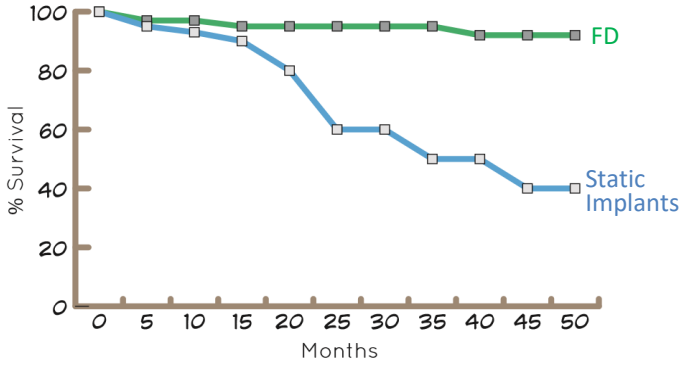
The survival of Fassier-Duval (FD) telescoping rods as compared with static implants in children affected by osteogenesis imperfecta is not well characterized. The purpose of this study was to compare risk of lower extremity implant failure in FD rods versus static implants.

Methods:

Data were retrospectively collected from patients with osteogenesis imperfecta who underwent surgical treatment using either FD rods or static implants (Rush rods, flexible nails, or Steinmann pins) between 1995 and 2015. The timing of implant failure was the primary outcome variable of interest. Comparisons were limited to limbs with no previous history of implants. Cox-proportional hazards regression analyses were used to compare the hazard of implant failure across implants. Negative binomial regression analyses were used to compare the incidence of surgical procedures in the 2 implant groups.

Results:

The final cohort consisted of 64 limbs (n=21 patients). The static implant group (n=38) consisted of 24 Rush rods (63%), 14 flexible nails (37%), and 2 Steinmann pins (5%). The hazard of implant failure in the static implant group was 13.2 times [95% confidence interval (CI), 2.5-69.6; P=0.0024] the hazard of implant failure in the FD rod group. The hazard of implant failure among females was 4.8 (95% CI, 1.4-16.7; P=0.0125) times the hazard of implant failure among males. The total surgery rate in the static implant group was 7.8 (95% CI, 1.8-33.0; P=0.0056) times the total surgery rate in the FD group.



Conclusions:

Among surgically naive limbs, FD rods were associated with significantly improved probability of survival compared with static implants.

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