



Evidence-Based Resource

What Is The Optimal Surgical Strategy For Complex Perianal Fistulous Disease In Pediatric Crohn's Disease?

Evidence Level IV

Perianal manifestations of Crohn's disease (CD), which will eventually affect approximately 10-15% of children with CD, can cause significant functional impairment and social restriction. Unfortunately, CD-associated perianal fistulas are frequently complex and refractory to treatment. The optimal approach to complex perianal fistulous disease (CPFD) is controversial.

We identified three relevant studies investigating treatment of CPFD in pediatrics, published between 2010 and 2015. Two of the three studies were retrospective (Hukkinen 2014, Rosen 2010), with the third being a retrospective analysis of prospectively collected data (Mattioli 2015).

Hukkinen et al. described 13 consecutive pediatric CD patients who had setons placed in perianal fistula tracks and were treated with Infliximab (IFX), which was initiated at a median of three months after seton placement and administered at weeks zero, two, and six, and then at eight-week intervals. Setons were kept in place for a median of eight months. Originally, 12/13 patients responded to therapy, though at last follow-up (median two years), only nine patients were fistula-free. Patients were satisfied with the treatment protocol (6/7 for fistula treatment and cosmetic outcome).

Mattioli et al. included 11 pediatric patients with perianal CD and complex fistula not responding to medical treatment, treated with the authors' "cone-like resection" (CLR) surgical technique (a form of fistulectomy). Anti-TNF therapy was started in all patients within 10 days post-operatively, for a minimum of 12 months. In 6/11 patients, complete remission was achieved after one operation; one patient required five procedures. All patients maintained continence, and no major complications were reported (median follow-up of 15 months).

Rosen et al. explored the use of endoscopic ultrasound (EUS) to monitor and guide treatment with setons (n=10), compared to patients with seton placement without EUS (n=4). Time from seton removal to recurrence of drainage was longer in the EUS-directed care group compared to the standard care group; however, given the small number of subjects, the data were not powered to test for significance. In subjects with at least one year of follow-up after seton removal, 3/5 in the EUS-directed care group remained free of recurrence versus 1/4 in the standard care group. Median duration of seton placement was 28 weeks (range 15-70) in the EUS-directed care group and 25 weeks (range 10-108) in the standard care group.

Based on the available evidence, we conclude that the combined use of setons and IFX therapy shows promise as a first-line treatment for CPFD in pediatric CD patients, as does CLR combined with biologics. The use of EUS to guide the combined medical and surgical management of perianal CD is feasible in the pediatric population, though larger prospective studies are needed to determine if it improves outcomes.

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The full systematic review can be found [here](#).

Non-Randomized Trials: Comparison Studies

[Rosen M, Moulton D, Koyama T, Morgan W, Morrow S, Herline A, Muldoon RL, Wise PE, Polk DB, Schwartz DA. Endoscopic ultrasound to guide the combined medical and surgical management of pediatric perianal Crohn's disease. Inflammatory Bowel Diseases 2010;16\(3\):461-8.](#)

Non-Randomized Trials: Non-Comparison Studies

[Hukkinen M, Pakarinen M, Piekkala M, Koivusalo A, Rintala R, Kolho K. Treatment of complex perianal fistulas with seton and infliximab in adolescents with Crohn's disease. Journal of Crohns and Colitis 2014;8\(8\):756-62.](#)

[Mattioli G, Pio L, Arrigo S, Pini Prato A, Montobbio G, Disma N, Barabino A. Cone-like resection, fistulectomy and mucosal rectal sleeve partial endorectal pull-through in paediatric Crohn's disease with perianal complex fistula. Digestive and Liver Disease 2015;47\(8\):658-62.](#)

