WebLog Journal of Medical Sciences

Case Report
Published: 19 Feb, 2026

Recurrent Perineal Abscesses Arising from a Congenital Isolated Perineal Canal Mimicking Crohn's Disease: A 22-Year Diagnostic Odyssey

*Govani DR[1], Swamy KB[2], Mehta AR[3], Midha PK[4], Govani ND[1], Panchasara NG[1], Patel RR[1] and Patel RV[1]**

[1]Department of Pediatrics and Pediatric Surgery, Postgraduate Institute of Child Health & Research and KT Children Govt University Teaching Hospital, Rajkot, Gujarat, India

[2]Lincoln University College, 2, Jalan Stadium, SS7/15 SS7. 47301 Petaling Jaya, Selangor, Malaysia

[3]Formerly Head, Department of Surgery at Tata Memorial Hospital, Mumbai, India

[4]J. Watumull Global Hospital & Research Centre, Delwara Road, Mount Abu, Rajasthan, India

Abstract

A 40-year-old man presented with recurrent perineal abscesses originating from a congenital isolated perineal canal extending from the anterior aspect of the anal canal to the base of the scrotum. Since the age of 18, he experienced 3-4 episodes of painful perineal swelling requiring incision and drainage. The chronicity and midline perineal involvement raised repeated concerns for underlying Crohn's disease. However, serial MRI pelvis studies, colonoscopic evaluations, and histology from the mucosa-lined tract consistently showed no evidence of inflammatory bowel disease. This case highlights a rare congenital anomaly that can closely simulate perianal Crohn's disease, leading to diagnostic uncertainty and repeated interventions over decades.

Keywords: Congenital Perineal Canal; Isolated Perineal Canal; Midline Perineal Tract; Recurrent Perineal Abscess; Perineal Infections; Anal Canal Anomaly; Perineal Fistula Mimic; Crohn's Disease Mimic; Non-IBD Perianal Disease; MRI Pelvis Fistula Assessment; Mucosa-Lined Perineal Tract; Congenital Anorectal Malformation; Adult Presentation of Congenital Anomaly; Perineal Sinus Tract; Surgical Excision of Perineal Canal

OPEN ACCESS

Correspondence:
Dr. Ramnik Patel, MD., Department of Pediatrics and Pediatric Surgery, Postgraduate Institute of Child Health & Research and KT Children Government University Teaching Hospital, Rajkot 360001, Gujarat, India, Tel: +447956896641; E-mail: ramnik@doctors.org.uk; ORCID: http://orcid.org/0000-0003-1874-1715

Received Date: *17 Jan 2026*
Accepted Date: *17 Feb 2026*
Published Date: *19 Feb 2026*

Citation:
Govani DR, Swamy KB, Mehta AR, Midha PK, Govani ND, Panchasara NG, et al. Recurrent Perineal Abscesses Arising from a Congenital Isolated Perineal Canal Mimicking Crohn's Disease: A 22-Year Diagnostic Odyssey. WebLog J Med Sci. wjms.2026.b1908. https://doi.org/10.5281/zenodo.18823822

Introduction

To our knowledge, this is one of very few documented cases of congenital perineal canal presenting in adulthood, and it offers valuable insights for colorectal surgeons, gastroenterologists, radiologists, and paediatric surgeons who may encounter similar presentations.

Congenital perineal canal is an extremely rare developmental anomaly characterised by an epithelialised tract extending between the anterior anal canal and the perineal skin, first described as a variant of anorectal malformation in paediatric populations [1]. It is more commonly reported in females and is seldom recognised in adult males [2]. Because of its midline location and recurrent infective complications, it may be mistaken for cryptoglandular fistula-in-ano [3] or perianal manifestations of Crohn's disease [4, 5]. Distinguishing these entities is essential, as management strategies and long-term implications differ significantly.

This case illustrates the diagnostic challenges posed by a congenital perineal canal in an adult male with recurrent abscesses over two decades. A congenital perineal canal is an extremely rare anorectal malformation characterised by an epithelialised tract that runs parallel to the anal canal, typically extending from the posterior vaginal fourchette to the anterior perineum in females while the primary anus remains normally positioned [1, 2]. When this canal is "isolated" but complicated by bilateral perineal abscesses, it indicates secondary infection of the tract, resulting in pus collections on both sides of its course [6].

This manuscript describes an exceptionally rare presentation of a congenital perineal canal in an adult male, complicated by recurrent bilateral perineal abscesses over two decades. Although congenital perineal canal is recognised predominantly in female infants, its occurrence in adult males is exceedingly uncommon and often misinterpreted as cryptoglandular fistula-in-ano

or fistulising Crohn's disease. Our case highlights the diagnostic challenges posed by this anomaly, particularly when recurrent sepsis and midline perineal tracts mimic inflammatory bowel disease.

Case Presentation

A 40-year-old man presented with a 3-day history of painful perineal swelling, fever, and difficulty sitting. He reported similar episodes since the age of 18, occurring approximately 3-4 times, each requiring incision and drainage of a perineal abscess. Between episodes, he remained asymptomatic. During this episode he incidentally met a general pediatric surgeon due to doctor's strike in emergency duty who showed keen interest in his history, examination and eventual surgical treatment.

He denied gastrointestinal symptoms including diarrhoea, abdominal pain, weight loss, perianal discharge, or rectal bleeding. There was no family history of inflammatory bowel disease.

Examination revealed bilobed bilateral red, hot, tender, fluctuant swelling in the both sides of the midline perineal canal lined with mucosa at both ends starting from 12 o'clock position anteriorly from the normally sited normal sized anus running in the midline and ending at the at the base of the scrotum with a clear mucosa lined opening. A small epithelialised opening was noted in the midline, separate from the anal verge. Digital rectal examination was unremarkable (Figure 1).

Investigations

Routine blood tests, including inflammatory markers, were normal outside acute episodes.

MRI Pelvis demonstrated a midline tract extending from the anterior aspect of the anal canal to the perineal skin. No secondary branching, horseshoe extension, or features of fistulising Crohn's disease. No rectal wall thickening, mucosal enhancement, or mesenteric inflammatory changes.

Endoscopic Evaluation: Colonoscopy performed twice over the preceding decade showed normal mucosa throughout. No aphthous ulcers, cobblestoning, or skip lesions.

Histopathology: Excision of the tract revealed a well-formed epithelialised channel extending from the anterior aspect of the anal canal to the median raphe of the scrotum. Microscopy demonstrated a stratified squamous epithelial lining throughout the tract, consistent with a congenital perineal canal rather than an acquired fistula. The epithelium showed no ulceration, crypt distortion, fissuring, or mucin depletion.

The underlying stroma contained mild chronic inflammatory infiltrates composed predominantly of lymphocytes and plasma

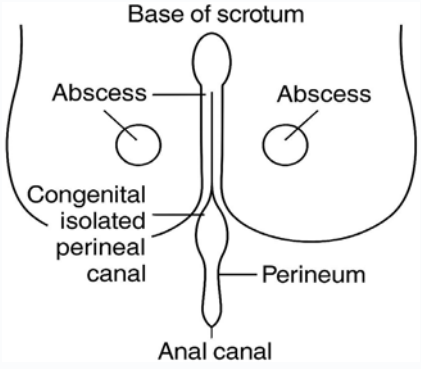

Figure 1: Simplified schematic diagram showing congenital isolated perineal canal in an adult male, viewed in lithotomy position. The anal canal is depicted at the bottom center, with a double-lined tract representing the congenital perineal canal extending anteriorly in the midline to the base of the scrotum, where it terminates in a mucosa-lined external opening. Bilobed abscesses are shown on either side of the tract within the perineum. This configuration mimics perianal Crohn's disease but reflects a congenital anomaly.

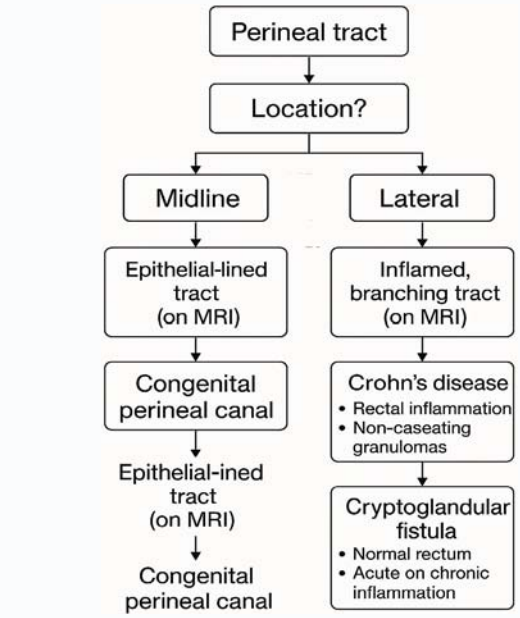

Figure 2: Diagnostic algorithm for evaluating recurrent perineal abscesses in adult males. The flowchart outlines a stepwise approach beginning with clinical assessment, followed by MRI pelvis, colonoscopy, and tract histology. Final diagnostic differentiation is based on tract location, epithelial lining, inflammatory features, and internal opening. A midline epithelialised tract without inflammatory features supports a diagnosis of congenital perineal canal. Branching fistulae with rectal inflammation and granulomas suggest Crohn's disease, while a tract with an internal opening at the dentate line and anal gland involvement indicates a cryptoglandular fistula.

Schematic Infomatic Summary: Congenital Isolated Perineal Canal Mimicking Crohn's Disease

Anatomical Overview

Structure	Description
Anal canal	Normal anatomy; anterior midline origin of tract
Congenital perineal canal	Straight epithelialised tract from 12 o'clock anal canal to scrotal raphe
External opening	Mucosa-lined opening at base of scrotum (median raphe)
Perineum	Bilateral abscesses flanking the tract

Clinical Timeline

Age	Event
18	First perineal abscess; incision and drainage
20s–30s	2–3 further episodes; recurrent abscesses, suspicion of Crohn's disease
40	MRI and histology confirm congenital tract; surgical excision performed

Table 1: Anatomical and clinical timeline.

Diagnostic Workup

Modality	Findings
MRI pelvis	Midline tract; no branching, no rectal inflammation
Colonoscopy	Normal mucosa; no skip lesions, ulcers, or cobblestoning
Histopathology	Squamous epithelial lining; no granulomas or transmural inflammation

Differential Diagnosis

Considered	Ruled Out By
Perianal Crohn's disease	Normal colonoscopy, MRI, and tract histology
Cryptoglandular fistula-in-ano	Lack of dentate origin, congenital epithelialised tract
Hidradenitis suppurativa	No nodules, sinus tracts, or apocrine distribution
Congenital perineal canal	Confirmed by imaging and histology

Table 2: Diagnostic work up and differentials.

Management

- Acute: Incision and drainage of abscess
- Definitive: Surgical excision of congenital tract
- Outcome: No recurrence at 12-month follow-up

Key Teaching Points

- Congenital perineal canal is a rare cause of recurrent perineal abscesses in adult males
- Mimics perianal Crohn's disease but lacks inflammatory features
- MRI and histology are essential for accurate diagnosis
- Surgical excision is curative

Table 3: Management and take-home messages.

cells, attributable to repeated episodes of secondary infection. Importantly, there were no non-caseating granulomas, no transmural inflammation, and no features of Crohn's disease. No glandular epithelium or anal crypts were identified, excluding a cryptoglandular fistula origin.

The external opening at the scrotal raphe demonstrated a mucosa-lined orifice with similar squamous epithelial characteristics and no dysplasia. Overall, the histological findings supported a congenital epithelial tract rather than an inflammatory or acquired fistulous process.

Differential Diagnosis

- Perianal Crohn's disease - considered due to recurrent abscesses and midline tract, but excluded by imaging, endoscopy, and histology.
- Cryptoglandular fistula-in-ano - less likely due to congenital epithelialised tract and absence of internal opening at the dentate line.
- Hidradenitis suppurativa - no nodules, sinus tracts, or typical distribution.
- Congenital perineal canal - ultimately confirmed.

Pathology Comparison Table

Congenital Perineal Canal vs Crohn's Fistula vs Cryptoglandular Fistula

Feature	Congenital Perineal Canal	Crohn's Fistula	Cryptoglandular Fistula
Origin	Developmental anomaly; epithelialised tract from anterior anal canal to perineal/ scrotal skin	Secondary to transmural inflammation in Crohn's disease	Infection of anal glands at dentate line
Epithelial lining	**Stratified squamous epithelium** throughout; continuous, well-formed	Often **granulation tissue**, ulcerated mucosa; may have focal epithelialisation	Mixed lining: granulation tissue, squamous epithelium, or columnar epithelium depending on chronicity
Presence of anal glands	**Absent**	Absent	**Present** at internal opening (cryptoglandular origin)
Granulomas	**Absent**	**Non-caseating granulomas may be present** (though not always)	Absent
Inflammation pattern	Mild chronic inflammation from repeated infection; no transmural inflammation	**Transmural chronic inflammation**, lymphoid aggregates, fissures	Acute → chronic inflammation around glandular structures
Ulceration	Typically absent	Common	Variable, depending on chronicity
Fissures / fistulous branching	**None**; straight congenital tract	**Common**, often complex branching	May branch but usually simpler than Crohn's
Internal opening	Anterior anal canal at 12 o'clock; congenital	Often at dentate line or rectum; may be multiple	At dentate line (crypts of Morgagni)
External opening	Midline perineum or scrotal raphe; mucosa-lined	Perineal skin; may be multiple	Perianal skin
Associated rectal mucosa	Normal	**Inflamed**, ulcerated, cobblestoning	Normal
Systemic disease association	None	**Crohn's disease**	None
Histological hallmark	**Continuous squamous epithelial tract without granulomas**	**Granulomas, transmural inflammation, fissures**	**Glandular involvement** with acute/chronic inflammation

Table 4: Pathology comparison table.

Treatment

Examination under anesthesia showed a normal size anatomically sited anus, but an abnormal secondary opening existed in the midline of the perineum opening near the base of the scrotum at the beginning

of the median raphe. The perineal canal was lined with mucosa at both anal and perineal ends and allowed the fistula probe to pass very easily form both ends without any resistance or hold up. Infection within the canal can spread laterally, causing painful, red, and swollen lumps (abscesses) on either side of the midline.

Treatment required a two-stage approach to resolve the acute infection and then correct the underlying defect: During the acute episode, the abscess was incised and drained under anaesthesia. After resolution of infection, the patient underwent elective surgical excision of the congenital perineal canal with primary closure.

Intraoperative findings confirmed a straight epithelialised tract with, multiple branching and simple side tracts and scarring of previously drained abscesses superficially in the perineum but no communication with the rectum beyond the anterior anal canal.

Outcome and Follow-up

The patient recovered uneventfully. At 12-month follow-up, he remained asymptomatic with no recurrence of infection or discharge. Bowel habits were normal, and there were no features suggestive of inflammatory bowel disease.

Discussion

A congenital perineal canal is a rare, usually benign anomaly, considered a form of anorectal malformation and sometimes described as an "anal canal duplication" [1]. It appears as a moist, erythematous, or inflamed groove or canal in the perineum, often running between the vaginal fourchette and the anus in females, or between the scrotum along the median raphe to varying lengths [1, 2]. When the tract becomes infected, it can form perianal or perirectal abscesses [2]. The occurrence of abscesses on both sides of the tract suggests significant, potentially recurrent inflammation, likely extending into the ischio-anal or perianal spaces. It is believed to be caused by a failure of the mid-perineum to fuse or epithelialise during development [1].

Congenital perineal canal is a rare anomaly resulting from incomplete fusion of the urorectal septum during embryogenesis [1]. It presents as a midline tract lined by squamous epithelium, typically extending from the anterior anal canal to the perineal skin [1, 2]. Most reported cases occur in females; male cases are exceptional [2].

In adults, recurrent infections may be the first presentation, leading clinicians to suspect fistulising Crohn's disease. Perianal Crohn's disease often presents with complex branching fistulae, rectal inflammation, and characteristic MRI findings - none of which were present in this case [4, 5]. The absence of granulomas or chronic inflammatory changes on histology further supported a congenital rather than inflammatory aetiology.

Recognition of this anomaly is crucial, as repeated drainage without definitive excision may perpetuate morbidity [6]. Surgical excision of the tract is curative in most cases. Initial management may be conservative - warm sitz baths, good hygiene, and sometimes antibiotics - particularly in infants [2]. In cases with active, large abscesses, surgical drainage (incision and drainage) is often required to relieve pressure and treat infection before definitive repair, although some studies suggest this can be done as a single combined procedure [6].

If the abscesses are recurrent or if the canal persists, surgical intervention is necessary. The standard approach for repairing a congenital perineal canal is Anterior Sagittal Anorectoplasty (ASARP), which allows accurate repair of the malformation [1, 2]. Simple drainage often results in recurrence because the underlying congenital tract remains. Definitive treatment typically involves complete excision of the canal (fistulotomy or fistulectomy). In complex cases, specialised procedures such as ASARP may be required to reconstruct the perineum while preserving continence [1].

Table 5:

Risk	Description
Recurrence	High risk of repeat abscesses if the primary canal is not surgically removed.
Fistula Formation	The abscesses may mature into chronic fistulae connecting the rectum to the skin.
Misdiagnosis	Often mistaken for simple perianal abscesses or trauma, leading to delayed definitive surgery.

Key Messages

- Congenital isolated perineal canal is an exceptionally rare anomaly in adult males and may present solely with recurrent perineal infections.
- Its clinical behaviour can closely mimic perianal Crohn's disease, particularly when recurrent abscesses occur over many years.
- MRI pelvis and tract histology are essential to differentiate congenital epithelialised tracts from inflammatory fistulae associated with Crohn's disease.
- Normal colonoscopy and absence of granulomatous or chronic inflammatory changes on histology help exclude inflammatory bowel disease.
- Definitive management requires surgical excision of the congenital tract; repeated drainage alone leads to ongoing morbidity.
- Awareness of this entity prevents misdiagnosis, unnecessary investigations, and prolonged uncertainty for patients.

Summary of Risks

See Table 5.

Patient's Perspective

"I spent years worrying that I might have Crohn's disease because the abscesses kept coming back. It was a relief to finally understand the cause and to have a treatment that stopped the problem."

Learning Points

- Congenital perineal canal is a rare but important differential diagnosis in adults with recurrent midline perineal abscesses.
- Its presentation may closely mimic perianal Crohn's disease, leading to prolonged diagnostic uncertainty.
- MRI pelvis and tract histology are essential in distinguishing congenital anomalies from inflammatory fistulae.
- Definitive management requires surgical excision of the epithelialised tract to prevent recurrence.

Conclusion

This case highlights a rare congenital anomaly - an isolated perineal canal in an adult male - that presented with recurrent perineal abscesses over more than two decades and closely mimicked the behaviour of perianal Crohn's disease. Despite repeated

episodes of infection, extensive imaging, endoscopic evaluation, and histopathology consistently demonstrated the absence of inflammatory bowel disease. Recognition of this entity is essential, as misdiagnosis may lead to unnecessary investigations and prolonged uncertainty. Definitive surgical excision of the epithelialised tract provides durable resolution. Clinicians should consider congenital perineal canal in the differential diagnosis of persistent midline perineal sepsis, particularly when classical features of Crohn's disease are absent.

The report provides:

- A clear diagnostic pathway integrating MRI, endoscopy, and histopathology.
- A comparison with Crohn's fistula and cryptoglandular disease.
- A detailed schematic and diagnostic algorithm to aid clinicians.
- A discussion emphasising the importance of recognising congenital anomalies to avoid misdiagnosis and unnecessary long-term immunosuppression.

References

1. Yamataka A, Lane GJ, Cazares J. Congenital perineal canal: a rare variant of anorectal malformation. Pediatr Surg Int. 1997; 12(5-6): 428-430.
2. Gupta DK, Sharma S. Congenital perineal canal: a report of two cases and review of literature. J Pediatr Surg. 2007; 42(9): E13-15.
3. Parks AG, Gordon PH, Hardcastle JD. A classification of fistula-in-ano. Br J Surg. 1976; 63(1): 1-12.
4. Schwartz DA, Loftus EV Jr, Tremaine WJ, Panaccione R, Harmsen WS, Zinsmeister AR, et al. The natural history of fistulizing Crohn's disease. Gastroenterology. 2002; 122(4): 875-880.
5. Gecse KB, Bemelman W, Kamm MA, Stoker J, Khanna R, Ng SC, et al. A global consensus on the classification, diagnosis and multidisciplinary treatment of perianal fistulising Crohn's disease. Gut. 2014; 63(9): 1381-1392.
6. Gupta A, Kumar S, Yadav DK, et al. Congenital perineal canal: a rare cause of recurrent perineal infection in adults. BMJ Case Rep. 2015; 2015: bcr2015211234.