

Radiological Case Report / Caso Clínico

Ischiopubic Sychondrosis Asymmetry: An Underestimated Cause of Pelvic Pain in Pediatric Patients*Assimetria da Sincondrose Isquiopúbica: Uma Causa Subestimada de Dor Pélvica em Idade Pediátrica*Patrícia Santos¹, Miguel Passos¹, Vasco Mendes¹, Cátia Esteves¹¹Serviço de Imagiologia, Unidade Local de Saúde de Braga, Braga, Portugal

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Abstract

Ischiopubic sychondrosis asymmetry is a benign and transient variant of the normal ossification process, typically observed in the pediatric age group, which may present as unilateral pelvic pain. We report the clinical case of an 11-year-old boy with a three-month history of right groin pain, without any history of trauma. Pelvic radiography revealed an ovoid radiolucent lesion with slightly sclerotic margins, located in the right ischiopubic ramus, corresponding to the region of the ischiopubic sychondrosis. Magnetic resonance imaging showed hypertrophy and edema of the corresponding sychondrosis, findings consistent with a skeletal developmental variant. Recognition of this benign entity is essential to avoid invasive investigations or unnecessary treatments. The patient achieved complete symptom resolution with conservative management.

Keywords

Ischiopubic sychondrosis; Bone development; Pelvic pain; Child.

Resumo

A assimetria da sincondrose isquiopúbica é uma variante benigna e transitória do processo normal de ossificação, típica da idade pediátrica, que pode manifestar-se como dor pélvica unilateral. Apresentamos o caso clínico de um rapaz de 11 anos com queixas de dor inguinal direita com três meses de evolução, sem antecedentes traumáticos. A radiografia da pelve evidenciou uma imagem ovóide radiotransparente e de margens ligeiramente escleróticas, localizada no ramo isquiopúbico direito, na região correspondente à sincondrose isquiopúbica. A ressonância magnética demonstrou hipertrofia e edema da respectiva sincondrose, achados compatíveis com uma variante do desenvolvimento esquelético. O reconhecimento desta entidade benigna é fundamental para evitar exames invasivos ou tratamentos desnecessários. O paciente teve resolução completa dos sintomas com tratamento conservador.

Palavras-chave

Sincondrose isquiopúbica; Desenvolvimento ósseo; Dor pélvica; Criança.

Clinical History

An 11-year-old boy arrived at the emergency department with a three-month history of a complaint of right-sided groin pain. There was no history of trauma, other symptoms, or any previous health issues. On physical examination, he presented with pain on palpation in this region, without gait lameness. Blood tests, pelvic and hip ultrasound were normal.

Imaging Findings

The pelvic radiography (Figure 1) revealed enlargement in the right ischiopubic ramus with a predominant radiolucent and expansile lesion at the right ischiopubic sychondrosis. No periosteal reaction was seen. Because the patient was symptomatic, a magnetic resonance imaging (MRI) was conducted and revealed focal asymmetric enlargement and irregularity in the right ischiopubic ramus with hyperintense signal within the lesion on proton density fat-saturated sequences, indicating bone edema (Figure 2A), and low signal intensity on T1-weighted sequence (Figure 2B). No soft tissue mass or edema of the surrounding tissues was seen.

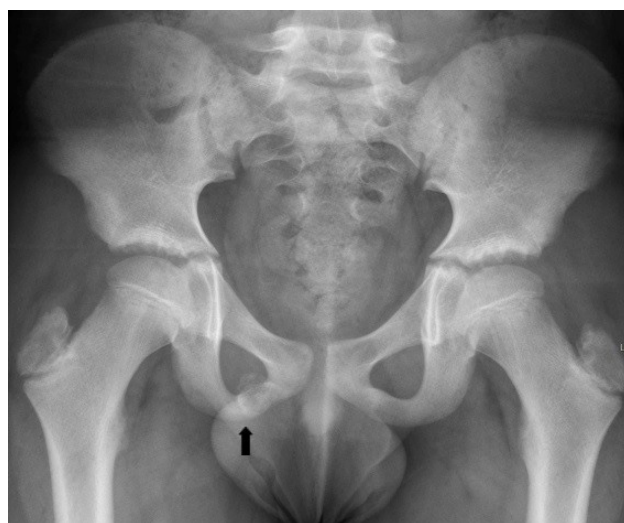


Figure 1 – Pelvic radiograph. Asymmetry of the ischiopubic sychondroses, with identification on the right of an ovoid-shaped lesion (arrow), predominantly radiolucent, with mildly sclerotic margins and no evidence of periosteal reaction.

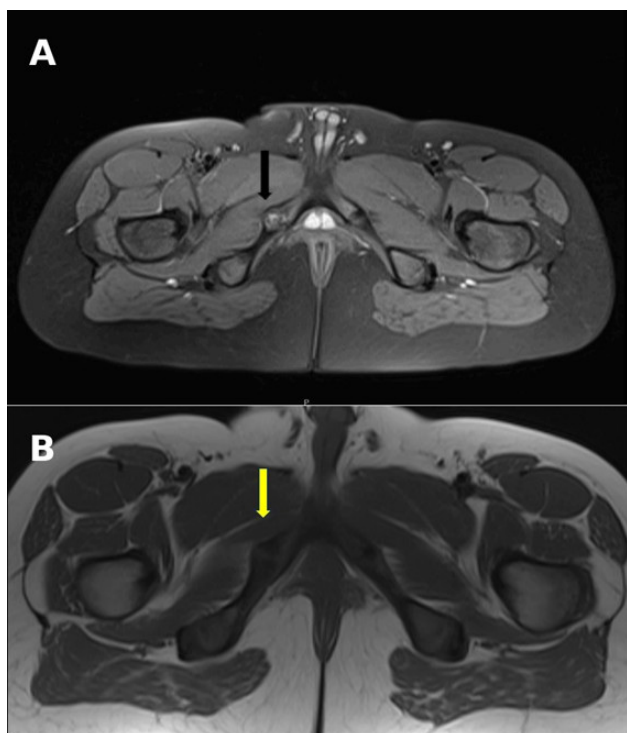


Figure 2 – Axial pelvic magnetic resonance images at the level of the ischiopubic rami; (A) Proton density-weighted sequence with fat suppression demonstrating hypertrophy of the right ischiopubic synchondrosis (black arrow), with intraslesional hyperintensity suggestive of edema; (B) T1-weighted sequence showing the same hypertrophy of the right ischiopubic synchondrosis with hypointense signal (yellow arrow).

Discussion

Ischiopubic synchondrosis asymmetry, also known as Van Neck-Odelberg disease or ischiopubic osteochondritis, is a common but little-known entity in pediatrics¹ and is currently regarded as a variant of the normal ossification process of ischiopubic synchondrosis.

The ischiopubic synchondrosis is a temporary joint between the lower ischium and the pubic ramus, presenting during normal skeletal maturation.² This joint is composed of hyaline cartilage¹ and typically develops during the fetal period, usually between the fifth and sixth months of gestation,³ with closure usually taking place between late childhood and early adolescence.⁴ Usually, the closure of this joint is asymmetrical and asymptomatic.⁵ Nonetheless, some

children may experience pain in the hip, groin, or gluteal region, with the lateral side of symptoms correlating with the dominant foot; changes usually manifest on the non-dominant side due to bearing more weight of the body.² This pain results from a stress mechanism caused by excessive traction of the ischiopubic muscles on the ischial tuberosity, resulting in delayed closure of this synchondrosis and an inflammatory reaction.²

The clinical presentation is nonspecific, but imaging findings are usually typical and transient. In our clinical case, on conventional radiographs, a tumor-like fusiform radiolucent area was seen in the ischiopubic ramus,¹ and it should be sufficient for the diagnosis. Because the patient was very symptomatic and this variant is not well-known between clinicians leading to confusion with other pathologies, additional tests were conducted to better characterize the findings and rule out serious conditions like tumors or osteomyelitis. On MRI, there is an increase in the signal intensity in proton density fat-saturated sequences, indicating bone edema at the synchondrosis site, along with the presence of bone bridges and cartilage.² A typical sign, though not always present, is the “fibrous bridging” sign—a band-like area with smooth margins in the fusion zone that appears hypointense on all sequences,^{1,2,3,4} representing fibrous tissue.¹ Notably, our patient’s imaging study revealed all typical findings except for the presence of the “fibrous bridging” sign. In an appropriate clinical setting and without evidence of abscess, free fluid, or surrounding myositis, these imaging findings should lead to a confident diagnosis of ischiopubic synchondrosis asymmetry.⁴

The course of the disease is benign, and improvement typically occurs within weeks or months with proper conservative treatment, that involves 2-3 weeks of anti-inflammatory therapy, bed rest, and avoidance of exercise.⁶ Changes in imaging scans may persist until complete ossification of the joint occurs.²

Conclusion

Ischiopubic synchondrosis asymmetry is a normal variant of development and should always be considered in children and adolescents aged 4-12 years with unilateral hip, groin, or gluteal pain. When alarming signs like infection, fractures, and tumors are ruled out, a confident diagnosis can be established solo by conventional radiography of the pelvis.

Ethical Disclosures / Divulgações Éticas

Conflicts of interest: The authors have no conflicts of interest to declare.

Conflitos de interesse: Os autores declaram não possuir conflitos de interesse.

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Confidentiality of data: The authors declare that they have followed the protocols of their work center on the publication of data from patients.

Confidencialidade dos dados: Os autores declaram ter seguido os protocolos do seu centro de trabalho acerca da publicação dos dados de doentes.

Protection of human and animal subjects: The authors declare that the procedures followed were in accordance with the regulations of the relevant clinical research ethics committee and with those of the Code of Ethics of the World Medical Association (Declaration of Helsinki).

Proteção de pessoas e animais: Os autores declaram que os procedimentos seguidos estavam de acordo com os regulamentos estabelecidos pelos responsáveis da Comissão de Investigação Clínica e Ética e de acordo com a Declaração de Helsínquia da Associação Médica Mundial.

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