Presacral epidermoid as incidental finding in coccydynia patient: a case report

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ABSTRACT

Background: Coccydynia is pain around the coccygeal region without any definite point. This remains unclear in the beginning about the origin and nature of pain. Presacral epidermoids can either be diagnosed as an incidental finding or when these become symptomatic.

Case Presentation: We present 35-years old female having coccydynia of 1 year duration. There was no relief of pain with symptomatic management as plain X-ray study was unremarkable. She was found to be having presacral epidermoid on imaging studies by computerized tomography and magnetic resonance imaging (MRI).

Conclusion: Being asymptomatic in nature presacral epidermoids remains undiagnosed for a long time. The cross-sectional imaging modalities as MRI is the key investigation for the diagnosis. Diffusion weighted images sequences play a key role in the work up diagnosis of presacral epidermoids.

Keywords: Coccydynia, presacral, epidermoid, CT, MRI, case report.

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Background

Coccydynia can be a vague pain in coccyx region which may be due to the underlying pathology like presacral epidermoid [1]. Retrorectal region is more prone to be having masses related to that of the notochord, neurogenic, or cloacal origin [2]. These embryological origin epidermoids are of epidermal in origin. Presacral region for these masses is slightly rare and becomes symptomatic if these increase in size or get infected.

Case Presentation

A 35-year-old female of low socio-economic status was having pain in the coccygeal region of more than 1 year duration. This was dull type of pain and the intensity was reduced by nonsteroid anti-inflammatory drugs. She visited pain clinic many times, but the complaints persisted without any relief. There was no history of trauma or previous illness contributing to the present symptomatology. On physical examination, she was well built with all the normal physical parameters. Systemic examination was normal. Plain X-ray of the pelvis and coccyx was unremarkable (Figure 1).

The patient was subjected to non-contrast computerized tomography (NCCT) of pelvis region along with lower spine. 3D reconstruction was done to rule out any architectural abnormality. There was a small hypodense well-defined lesion in front of the coccygeal region (Figure 2a-c). Bony outline and their parameters were grossly unremarkable.

She underwent magnetic resonance imaging (MRI) examination of the pelvis for further characterization of the lesion. The lesion was hypointense on T1W (Figure 3a,b), hyperintense on T2W (Figure 4a-c), and no suppression on short tau inversion recovery (Figure 5) sequences. There was subtle contrast enhancement of the wall of the lesion (Figure 6a-c). There was fluid restriction on diffusion weighted images (DWI) (Figure 7). Radiological working diagnosis of having a presacral epidermoid was made.

The patient underwent surgical excision in our sister institute and the diagnosis was confirmed histopathologically. Microscopic picture of histopathological specimen revealed cystic mass lined by cornified epithelium having lamellated keratin without any calcification. This was surrounding a combination of desquamated debris, keratin, cholesterol, and water. The patient is asymptomatic in the follow up after a month.

Discussion

Presacral region is a potential space where the pathologies remain undiagnosed till these become symptomatic. These symptoms are usually because of the increasing size and additional features like infection or local exten-

sion. Following are different types of pathologies which come across at this location:

- Developmental in origins such as hamartomas, dermoid, teratomas, and duplication cysts
- Neoplastic and infective such as gastro intestinal stromal tumor, neurogenic tumors, rectal carcinoma, and abscesses.

Epidermoids are the rare benign congenital tumors of the ectodermal in origin. The formation is from the cells of the anal plate which are separated out while in the development when canalization takes place. These contain cholesterol, keratin, and desquamated debris along with water contents [3]. These remain without any symptoms for a long time and found in females while undergoing the evaluation for the pregnancy and labor. The complaints of the individuals are related to local compression like pain, fullness, constipation, dysuria, and increased frequency of micturition. The anomaly is more often seen in females [4,5]. Plain radiography may sometimes show other bony abnormalities. Barium studies often reveal extrinsic mass over the pre sacral region. Ultrasonography reveals a well-defined cystic mass with internal echoes. These are hypoechoic with a slight non-homogenous in nature. Computerized tomography (CT) shows thin-walled cystic masses of fluid density with or without calcification. Histologically, these are lined by stratified squamous epithelium. These may be of increased density because of their high protein contents. These may show thick walls because of the infection. Sometimes there may be some air contents because of their fistulous communication to the rectum. Benign and malignant masses become difficult to differentiate when these are complicated by internal blood, other contents and super added infection. The outline becomes difficult to differentiate between malignant invasion and complicated epidermoids. MRI differentiates the contents of the epidermoid with T1W, T2W, and DWI sequences. There are few hypointense contents in T2W images in nondependent parts of the cystic epidermoids [6,7]. Management is usually by surgical approach if the entity is symptomatic because of the compression or associated findings. This can either be by external or internal approach depending upon the location

Figure 1. *Plain X-ray pelvis antero-posterior view. No abnormal pathology observed in the bones included in the film.*

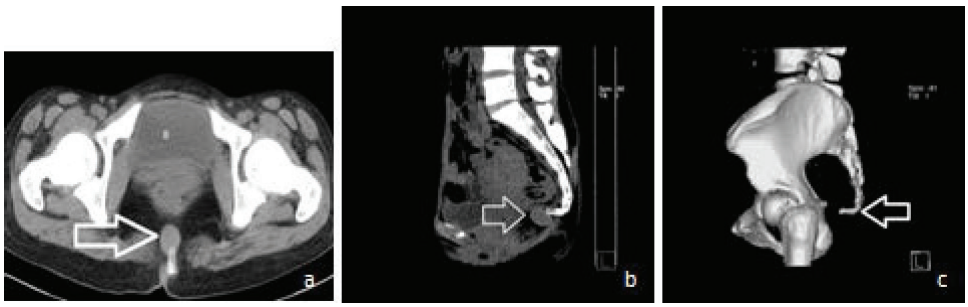

Figure 2: *Non-contrast computerized tomography pelvis region. (a) Axial section of the pelvis shows a well-defined retro rectal hypodense lesion (white arrow). (b) Reformatted sagittal image shows the same lesion in the presacral region (white arrow). (c) Shaded surface display reformatted image shows normal bones except slightly angulated coccygeal region (white arrow).*

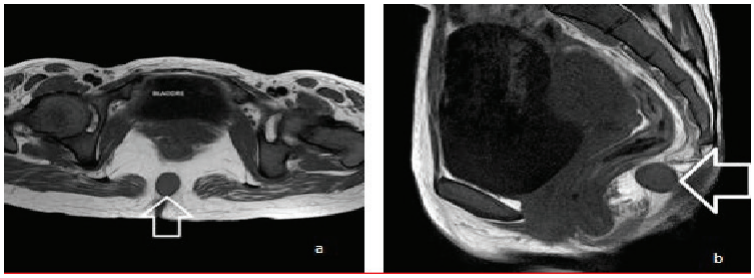

Figure 3: *Magnetic resonance imaging pelvis region T1WI. (a) Axial section shows a well-defined hypointense lesion on the posterior aspect of the rectum (white arrow). (b) Sagittal section shows the location of the lesion as presacral (white horizontal arrow).*

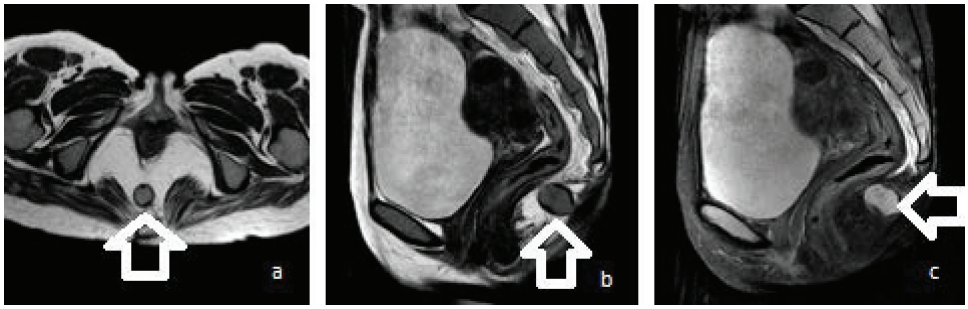

Figure 4: *MR T2WI pelvis region. (a) There is a well-defined hyperintense lesion in the presacral region (white arrow). (b) Same lesion in sagittal section with hypointense wall (white arrow). (c) T2W with fat suppression highlights the lesion (white horizontal arrow).*

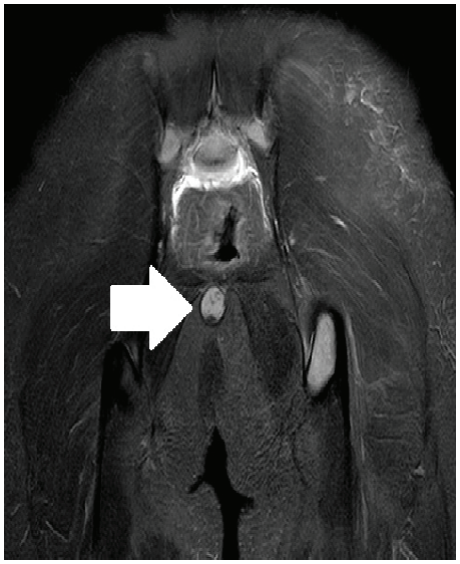

Figure 5: *Short tau inversion recovery coronal image reveals the hyperintense lesion in the retrorectal region (white horizontal solid arrow).*

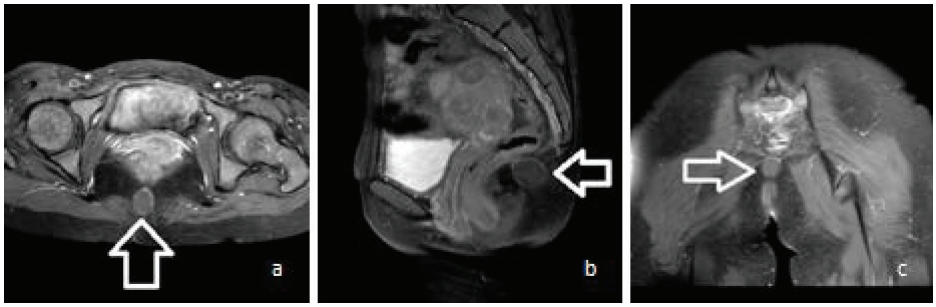

Figure 6: *Post gadolinium fat suppressed T1W. (a) Axial section shows nonenhancing lesion with slight enhancement of the wall (white arrow). (b) Sagittal section shows the same lesion in presacral region (white arrow). (c) Coronal section further delineates the retro rectal lesion (white arrow).*

Figure 7: *Diffusion weighted images axial section reveals hyperintense shining lesion in the presacral region (white upward arrow).*

and extension. The approach is by parasacral incision if the level is below the mid-sacral region and otherwise laparotomy is often warranted.

Conclusion

Presacral epidermoids remains undiagnosed for quite a long time because of being asymptomatic. These can either be diagnosed as an incidental finding or when these cause some related symptomatology. The cross-sectional imaging modality such as MRI is the key investigation for the diagnosis. DWI sequences play a key role in the final diagnosis of presacral epidermoids.

Acknowledgement

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List of Abbreviations

CT	Computerized tomography
DWI	Diffusion weighted images
MRI	Magnetic resonance imaging
NCCT	Non-contrast computerized tomography

Consent of the patient

Informed consent was obtained from the patient to publish this case.

Ethical approval

Not applicable

Authors details

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Summary of the case

Patient (gender, age)	1	Female, 35 years old
Final Diagnosis	2	Presacral epidermoid
Symptoms	3	Pain in the lower back of one year duration
Medications	4	Analgesics
Clinical Procedure	5	Plain radiography, NCCT and MRI pelvis region
Specialty	6	Radio-diagnosis