**Case Report**

# Idiopathic Calcinosis Cutis in Scrotum - A Rare Subtype

**Priyanka Poonam***

Tutor, Department of Pathology, Patna Medical College, Patna, India
*Corresponding author email: **ppdoc83@gmail.com**

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## Abstract

Idiopathic calcinosis cutis is a rare disorder and occurs in the absence of known tissue injury or systemic metabolic defect. It is a skin calcification process with abnormal deposits of calcium phosphate in the skin in various parts of the body. It is a rare and benign syndrome which does not cause any late complication and whose prognosis is therefore favourable. Hereby, I am reporting a case of 40 years old male who presented with multiple asymptomatic calcified nodules in the scrotum with normal lab findings. Excision of the nodule on histopathological examination revealed foci of calcification separated by fibrous septa in the dermis.

## Key words

Idiopathic calcinosis, Calcified Nodules, Calcinosis cutis.

## Introduction

Idiopathic Scrotal Calcinosis is a rare benign process with multiple calcified and painless nodules are found in the scrotum in the absence of any systemic metabolic disorder. There is abnormal deposit of calcium phosphate crystals in the skin of scrotum [1]. There are of four types of calcinosis -Dystrophic, Metastatic, Iatrogenic and Idiopathic [2]. Here, I present a case of Idiopathic Calcinosis cutis of scrotum in a 40 year old male.

## Case report

A 40 year old male patient presented to Surgical OPD with the complaints of multiple hard swellings over the scrotum for the last six months. It was painless. There was no history of any swelling in the bone or any fracture or deformity of the bone. There was no muscular weakness or joint pain.

On local examination, there were multiple calcified nodules altogether measuring 3x3x2 cm, firm, non-tender and mobile.

His laboratory finding were Hb-12 mg/dl, Serum calcium, phophorus, uric acid, ESR, CRP ALP and creatine kinase were normal. Hormones like calcitonin, parathormone, thyroid hormone levels were also normal.

Plain X-ray of scrotum revealed well defined calcifications of 0.2 cm to 0.4 cm. On ultrasonography, multiple well defined clacified intra-muscular lesions measuring 0.2 cm to 0.4 cm were depicted.

Total excision of the calcified nodule was done and sent to the department of Pathology for histopathological examination.

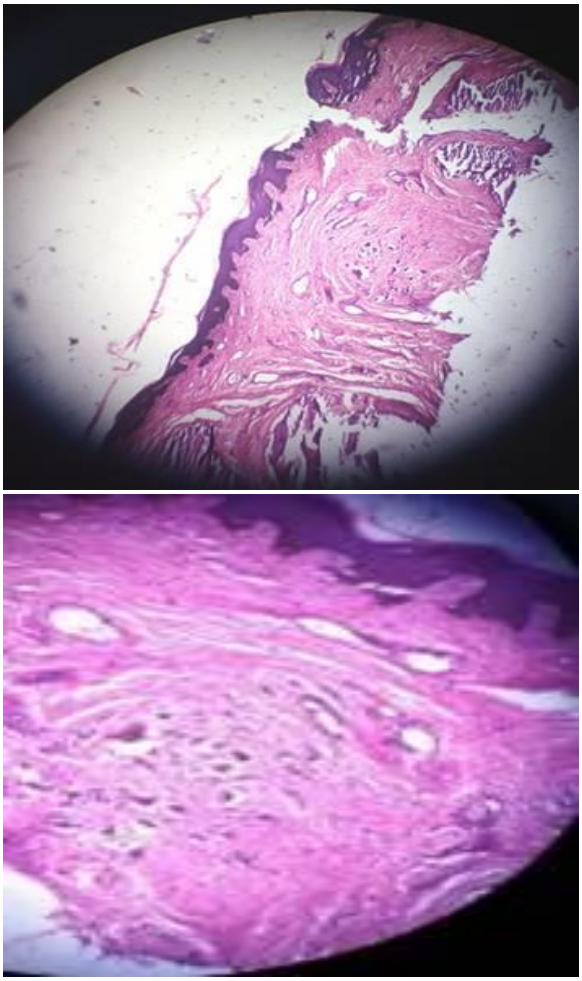
On gross examination, the size of the calcified nodule was 3x3x2cm. On cut section, multiple foci of calcification in the cutaneous tissue were seen. On histopathological examination nests of calcifications separated by fibrous septa were seen in the dermis (**Figure – 1, 2, 3**).

**Figure – 1:** Gross Specimen of calcified nodule in the scrotum cut section shows multiple foci of calcification in the dermis.

## Discussion

Idiopathic calcinosis cutis is skin calcification with no known etiology or any systemic metabolic disorder with normal levels of serum calcium and phosphorus [3]. Scrotal calcinosis is a rare benign process characterized by multiple painless, hard scrotal nodules in the absence of systemic metabolic disorder.

**Figure – 2, 3:** H&E Stain Scanner 10X Amorphous granular pinkish staining nests of calcification separated by fibrous septa in the dermis (10X, 40X).



Idiopathic calcinosis is the rarest subtype. It is abnormal deposit of calcium phosphate in the skin in various parts of the body [1]. It occurs in the absence of known tissue injury or systemic metabolic defect [4]. Although its pathogenesis is not clear, there may be some abnormality in the metabolism of gamma carboxy glutamic acid (GCGA), a unique amino acid which is normally found in bones and tissues. GCGA has calcium and phospholipid binding properties. It might get deposited in the skin due to some abnormal metabolism and binds calcium and phosphate leading to calcification in the cutaneous tissue [4].

There are four types of calcinosis cutis (**Table – 1**) [2].

**Table – 1:**

| Type of Calcinosis | Cause | Associated with |
|---|---|---|
| Dystrophic | Infection, Inflammation, Neoplasm, Connective tissue disease | Localised or widespread tissue changes or damage |
| Metastatic | Systemic Metabolic Disorder With raised serum calcium and phosphorus | Abnormal calcium and phosphorus metabolism |
| Idiopathic | Unknown | Not associated with any tissue damage or demonstrable metabolic disorder |
| Iatrogenic | Secondary to treatment or procedure [5] | |

Determining the exact type of calcinosis cutis is very important for accurate management. Clinical features can vary from localized nodules to debilitating lesions that can involve large areas of the body. It can be associated with Down's syndrome and appears more often in childhood or adolescence.

Secondary calcinosis cutis may appear in the course of Juvenile dermatomyositis or in the form of systemic scleroderma named CREST syndrome (Calcinosis cutis, Raynaud's phenomenon, esophageal dysfunction, sclerodactyly and telangiactasia [6].

On local examination, multiple, firm to hard mobile, on-tender nodules can be palpated. Lab investigations for Idiopathic calcinosis cutis reveal normal values of liver function test, renal function test serum calcium, phosphorus, uric acid, CRP ESR, alkaline phosphatase, creatinine kinase, calcitonin parathhormone, thyroid hormone.

On cut section, lesion is gritty with chalky white calcified areas. On histopathological examination amorphous granular material staining pinkish on Haematoxylin and Eosin stain separated by fibrous septa in the dermis. Radiologically, well defined calcification of various sizes in the involved area is seen.

Medical treatment may include intralesional steroids probenecid, colchicine, warfarin, aluminum hydroxide antacids [7], bisphosphonates calcium channel blocker [8].
Although it is difficult to treat it completely, surgical excision of the mass can be done but it may recur. Total excision is superior to medical treatment [9]. Indications for surgical removal are pain, infection, ulceration, functional impairment [10].

## Conclusion

Idiopathic calcinosis cutis of scrotum is a rare disease. So, malignancy, collagen vascular disease, renal insufficiency, excessive milk ingestion, Vitamin D poisoning should be ruled out by history and lab investigations. Also, it is important to type the calcinosis, so that accurate management can be done for different types. Medical treatment leads to different side effects and complications. Surgical excision can successfully resolve it but recurrence is possible.

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