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Case Report

Clinicopathological study of 6 cases of idiopathic calcinosis cutis: A case series

Tejashwini Kotian[1,*], **Prachi Gaddam**[1], **Susan Cherian**[1], **Raji Naidu**[1], **Uma Chaturvedi**[1], **Sruthimayura**[1]

[1]*Dept. of Pathology, BARC Hospital, Mumbai, Maharashtra, India*

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ABSTRACT

Calcinosis cutis is a rare, benign and usually asymptomatic condition which may involve any part of skin. Characterized histologically by deposition of calcium within the dermis. Can present at variable site with variable pathogenesis. This case series present the rare entity of idiopathic cutaneous calcinosis which can be diagnosed accurately with clinical, pathological and metabolic correlation, is completely curable by surgical excision and has an excellent prognosis.

1. Introduction

Calcinosis cutis is a rare, benign and usually asymptomatic condition which may involve any part of the skin and is characterized histologically by deposition of calcium within the dermis. It can be of metastatic, dystrophic, idiopathic or iatrogenic type. Idiopathic calcinosis cutis is cutaneous calcification of unknown cause in the absence of any metabolic disorder.[1] Few authors have postulated dystrophic calcification of the epithelial inclusion cysts as the cause.[2] Very few case series of this entity have been reported in the literature.[3]

2. Case History

We report 6 cases of idiopathic calcinosis cutis. The patient's age ranged from 25 to 71 years. 3 were males and 3 females. Blood reports were normal. Serum calcium, phosphorus, vitamin D were present within normal limits. Lesions were located on the scrotum, scalp, axilla, iliac region with size ranging from 0.5 to 3 cm. Most cases were clinically diagnosed as sebaceous cyst or lipoma. Cytology was performed in one case which showed amorphous granular material. Grossly excised lesions showed whitish chalky deposits.

Histopathological examination showed a variable amount of calcium deposition with surrounding foreign body reaction. Two cases showed the lining of epidermal

Table 1: Types of calcinosis cutis

Metastatic	Associated with hypercalcemia or hyperphosphatemia Systemic disorders
Dystrophic	Calcium deposition in previously damaged tissue Calcinosis universalis (Calcinosis circumscripta)
Idiopathic	No underlying cause Tumoral calcinosis: large deposits near the joints Idiopathic calcinosis of scrotum
Subepidermal calcific nodule	Cutaneous calculi on face In children
Calciphylaxis	Calcification of cutaneous blood vessels Can be associated with metabolic disorders.

* *Corresponding author.*
E-mail address: 02tejk@gmail.com (T. Kotian).

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Table 2:

Case no	Age in years	Sex	Site	Clinical Diagnosis	Single/ Mutiple	Size in CM	Epithelial Lining
1	54	Male	Scrotum	Scrotal calcinosis	Multiple	3- 1.5cm	Absent
2	71	Female	Right iliac crest	Cutaneous calcification seen on X ray. Cytology done.	Multiple	3-1.5cm	Absent
3	40	Male	Scrotum	Sebaceous cyst	Multiple	1.5 -0.3cm	Absent
4	23	Female	Axilla	Sebaceous cyst	Single	2cm	Present
5	30	Female	Scalp	Sebaceous cyst	Single	2cm	Present
6	34	Male	Scrotum	Sebaceous cyst	Multiple	3- 2.5cm	Present

inclusion cyst along with calcification. Metabolic and connective tissue workup was normal in all cases. None of the cases have reported recurrence till date.

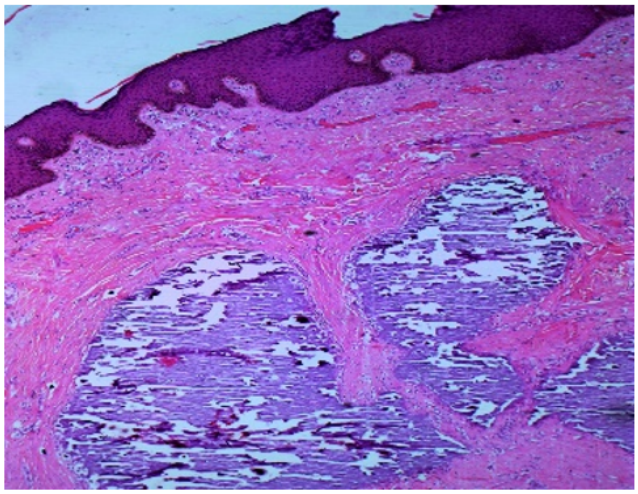

Fig. 1: Well circumscribed amorphous basophilic deposits in dermis. H&E 100X

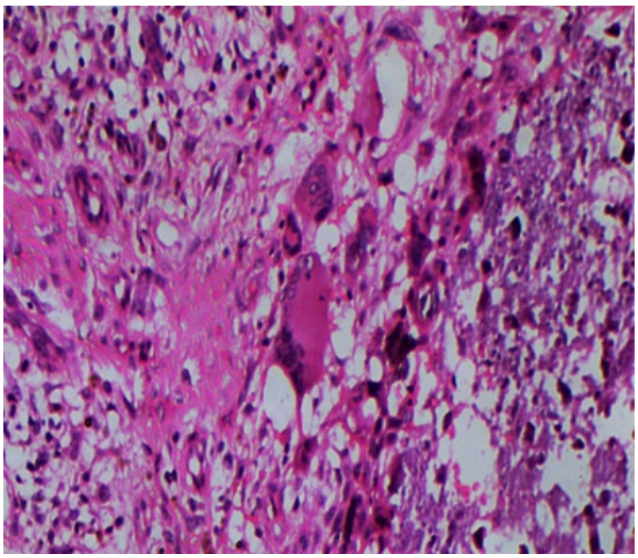

Fig. 2: Giant cell reaction around the deposits. H&E 400X

3. Discussion

Idiopathic cutaneous calcinosis is a rare, benign, local process, characterized by multiple, painless, hard subcutaneous nodules in the absence of any systemic metabolic disorder.[3] Exact incidence is difficult to report as this entity is usually described in the form of individual case reports and limited numbers of case series are available in the literature.[4] Multiple theories are proposed for pathogenesis of cutaneous calcinosis by various authors.

There are very few case reports on FNA cytology of idiopathic calcinosis cutis.[5,6] FNA samples yielding abundant calcium have differential diagnosis of calcified fibrous pseudotumor, calcified epidermal cyst, sarcoidosis, tuberculosis, lymphoepithelial lesion, pilomatricoma, osteitis fibrosa cystica, and extra skeletal osteosarcoma etc. Cytological finding of amorphous calcium salts with histiocytes and the appropriate clinical background can help to suspect idiopathic calcinosis cutis which needs

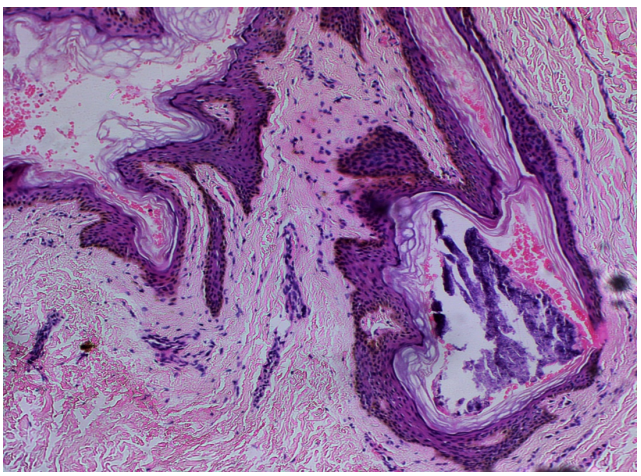

Fig. 3: Epidermal inclusion cyst undergoing calcification. H&E 400X

Table 3:

	Muddegowda et al 2011	Andola et al 2014	Alok et al 2017	Present study
Number of cases	4	9	18 (5 idiopathic)	6
M:F	2 Male 2 Female	9 Male (scrotal calcinosis)	13Male,5 Female	3 (Male) 3 (Female)
Size of nodules	0.4 to 4 cm	0.5 to 3.5cm	0.5 to 4.8cm	0.3cm to 3cm
Most common site	Scrotum, knee, thorax Right arm	Scrotum	Scrotum, Hip, scalp	Scrotum
Clinical Diagnosis	Sebaceous cyst	Sebaceous cyst	Sebaceous cyst	Sebaceous cyst
Evidence of epithelial lining	1 case with calcification within cyst	Not seen	-	3 cases
Evidence of calcification elsewhere in body	No	No	No	No
Biochemical values(serum calcium phosphate, uric acid, vitamin D)	WNL	WNL	WNL (in idiopathic cases)	WNL
Recurrence	Not mentioned	NIL	Not mentioned	NIL

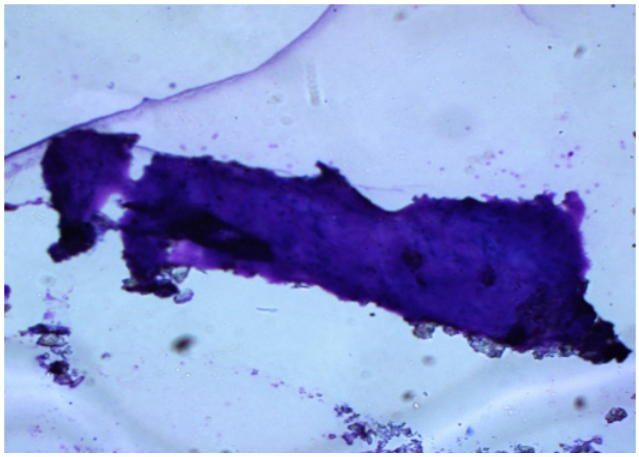

Fig. 4: FNAC: Amorphous basophilic material. Giemsa 400X

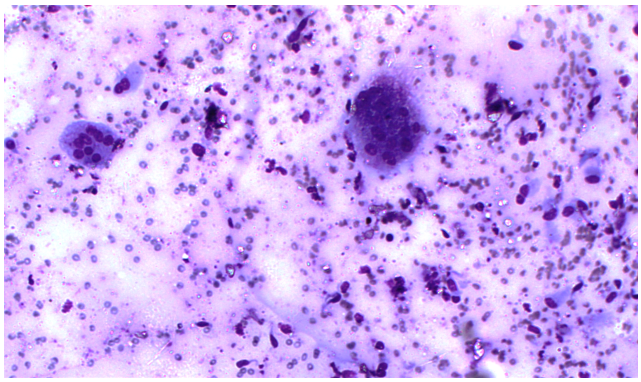

Fig. 5: FNAC**:** Giant cells. Giemsa 400X

confirmation by histology.

Surgical excision is the treatment of choice and has excellent prognosis. Recurrence rate is very low. Incomplete excision may leave microscopic foci of calcification which may recur later.[7]

4. Conclusion

This case series is reported to create awareness about the rare entity of idiopathic cutaneous calcinosis which is a benign and local process. It can be diagnosed and managed accurately with clinical, pathological and metabolic correlation. Cytology may be performed in larger lesions. Histopathology is the gold standard for diagnosis. It is completely curable by surgical excision and has very low recurrence if completely excised.

5. Source of Funding

None.

6. Conflict of Interest

The authors declare that there is no conflict of interest.

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Author biography

Tejashwini Kotian, Resident https://orcid.org/0000-0002-7506-2201

Prachi Gaddam, Consultant

Susan Cherian, HOD

Raji Naidu, Consultant

Uma Chaturvedi, Consultant

Sruthimayura, Resident

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