

1 **Presentation and management outcome of anterior fontanelle**

2 **Dermoid cyst: About 6 cases**

3

4 **Abstract**

5 **Aim**

6 The aim of study is highlight the presentation of anterior fontanelle Dermoid cyst which is  
7 relatively uncommon condition, and our ability to excised the cysts in our resource poor  
8 environment.

9 **Presentation of cases**

10 A retrospective study of all the consecutive patients managed by pediatric surgery unit over six  
11 years was done and the results was analysed and documented.

12 A total of six patients was managed over a period of five years including 4 boys and 2 girls. The  
13 age ranges between 6months to five years.

14 **Discussion**

15 Dermoid cysts are inclusion cyst mostly seen in the midline.<sup>1,2</sup> They occur in head and neck or  
16 the trunk. It is a benign, slowly growing lesion, dermoid cysts are thought to arise during the  
17 third and fifth week of embryogenesis from displacement of germ cells during the formation of  
18 the neural tube.

19 All of the patients had excision under general anesthesia. The intra operative finding is a global,  
20 cystic swelling containing amber to yellow color jelly fluid.

21 All the patients were operated as day case surgery and were discharged home about four to six  
22 hours after recovery from anesthesia. All the patients did well postoperatively, only one patient  
23 had surgical site infection which was treated with antibiotics and wound dressing.

24 **Conclusion**

25 Dermoid cyst is an uncommon congenital cyst mostly diagnosed during infancy, following  
26 excision recurrence is uncommon

27 **Key words:**Dermoid Cysts, Anterior Fontanel, Congenital cyst, Germ cells

## 28 **INTRODUCTION**

29 Dermoid cysts are inclusion cyst mostly seen in the midline.<sup>1,2</sup> They occur in head and neck or  
30 the trunk. It is a benign, slowly growing lesion, dermoid cysts are thought to arise during the  
31 third and fifth week of embryogenesis from displacement of germ cells during the formation of  
32 the neural tube, the cyst is thought to be formed from defects in the separation of neuroectoderm,  
33 resulting in sequestration of ectodermal remnants.<sup>3,4</sup>

34 The incidence rates of scalp dermoid cysts range from 15 to 22% c.<sup>5,6</sup> scalp dermoid involving  
35 the anterior fontanelle is rare.<sup>7</sup> It is a congenital lesion hence mostly present at birth or notice  
36 a few months after birth, with a swelling that is slowly increasing in size.<sup>8,9</sup> Differential diagnosis  
37 of anterior Dermoid cyst includes scalp lipoma, scalp abscess, encephalocele, etc.

## 38 **CASES PRESENTATION**

39 Between January 2017 to December 2021 six (6) children were managed by pediatric surgery  
40 unit, comprises four boys and two girls (fig. 1). The age ranges between 6 months to five years. The  
41 commonest complaint at presentation is scalp swelling which is painless slowly increasing in size  
42 (FIG 2). Only one patient has fever at presentation which was treated with anti-malarial and  
43 paracetamol before the surgery, two patients also had anemia with packed cell volume of less  
44 than 30% and were optimized with hematinic before the surgery.

45 All of the patients had excision under general anesthesia. The intra operative finding is a global,  
46 cystic swelling containing amber to yellow color jelly fluid (FIG 3B). All the patients were  
47 operated as day case surgery and were discharged home about four to six hours after recovery  
48 from anesthesia. All the patients did well postoperatively, only one patient had surgical site  
49 infection which was treated with antibiotics and wound dressing. None of the patients had  
50 recurrence throughout the follow up period, though the last patient was followed up for only six  
51 months before the end of the study period.

## 52 **Discussion**

53 Dermoid cyst are subcutaneous sacs lined with a stratified squamous epithelium consists of semi-  
54 solid inspissated yellow material. <sup>4</sup> The contents of the cyst are commonly hair and hair follicle,  
55 sebaceous glands rarely presence of sweat gland is also reported in the literature. <sup>5</sup> This is  
56 confirmed histologically in most of our pathologic samples.

57 The common symptoms at presentation in our patients is painless scalp swelling around the  
58 anterior fontanelle which is slowly increasing in size, this is similar to most of documented  
59 findings in other studies worldwide. <sup>7</sup> usually there are no constitutional symptoms except  
60 infected or in the present of trauma which is consistent with the features we found among our  
61 patients only 1 patient had fever. <sup>8,9</sup> They are usually round cystic masses that are non-tender, the  
62 affected children are otherwise healthy.

63 The diagnosis is usually clinical from history and examination, however some investigations  
64 may be done to confirm the presence of a cystic mass at the anterior fontanelle or presence of  
65 intracranial extension of the cyst, these includes high resolution ultrasound, scalp computer  
66 tomography (CT) or scalp Magnetic resonance imaging ( MRI). <sup>8,9,10</sup>

67 All of our patients had subcutaneous ultrasound studies which showed a cystic swelling around  
68 the anterior fontanelle.

69 The most widely used method of treatment is surgical excision, and recurrence after excision is  
70 said to be very low. All of the patients in our study had surgical excision under general  
71 anesthesia and none of them had recurrence due period of the follow up. <sup>10,11</sup>

## 72 **Conclusion**

73 Dermoid cyst is a congenital cyst mostly diagnosed during infancy, following excision  
74 recurrence is uncommon

## 75 **Consent**

76 As per international standards, parental written consent has been collected and preserved by the  
77 author(s).

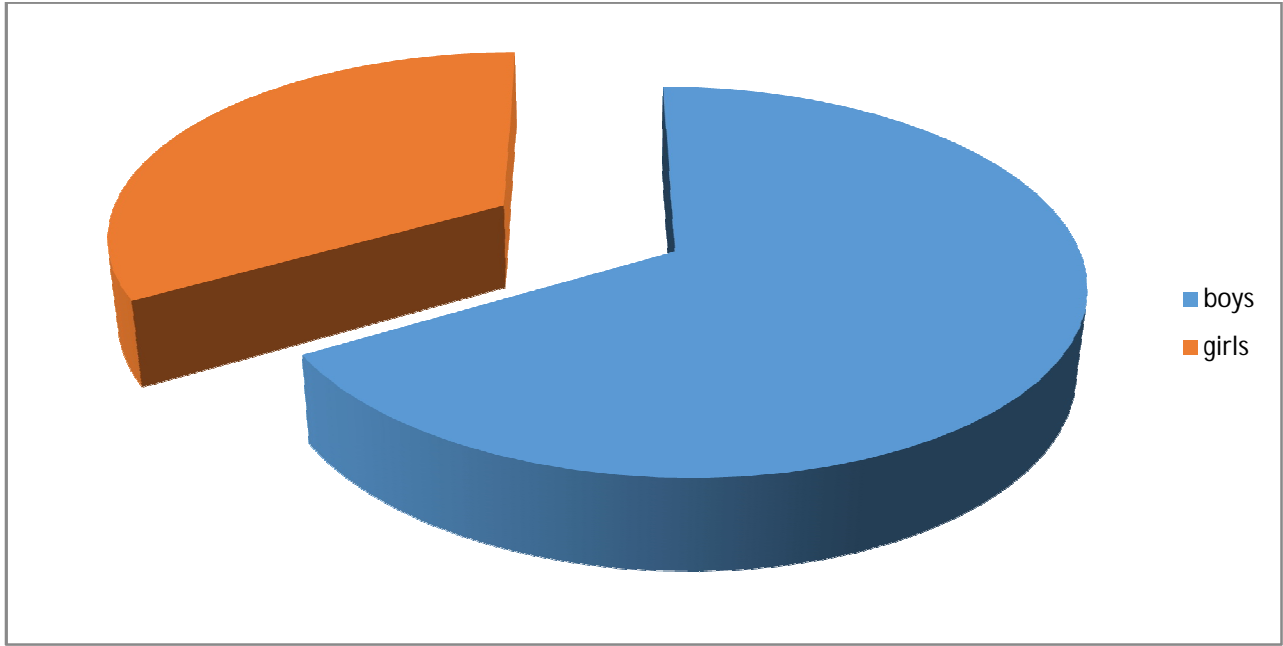
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104

105 **FIGURES**



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107 FIG. 1 pie chart showing sex distribution

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110 FIG. 2. Pre- operative picture

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113 FIG. 3 A. intra – operative picture (before incision)

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116 Fig.3B. intra – operative picture