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# Adrenal pseudocyst in a human foetus: a case report

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**Abstract:** During dissection of an aborted human foetus of 24 weeks gestation, a cavity filled with reddish brown fluid is encountered in the right adrenal gland. The cavity has fibrous wall devoid of recognizable lining cells. Pseudocysts of the adrenal gland are rare cystic lesions that arise within the gland and have fibrous wall devoid of recognizable lining cells. Cystic lesions of adrenal gland are reported in all age groups and categorized as any of the four major types: endothelial cysts, pseudocysts, epithelial cysts and parasitic cysts. In infants, adrenal cysts are usually of pseudocyst variety and thought to be secondary to neonatal adrenal hemorrhage.
**Keywords:** Adrenal gland, cystic lesions, pseudocyst.

## INTRODUCTION

Cystic lesions of the adrenal gland are rare and usually discovered as incidental findings during imaging studies or autopsy. The lesions are identified in approximately 4% of CT scans in adult patients, whereas the reported incidence in autopsy series varies between 0.064% and 0.18% [1]. The frequency of detection of adrenal cysts appears to be increasing because of improved radiologic imaging techniques [2,3,4]. More than 600 cystic lesions of the adrenal gland have been reported in the literature [5,6]. Adrenal cysts are reported in patients of all age groups with a peak incidence between the third and sixth decades of life [3,7]. The lesions are usually unilateral without predilection for the right or left side [7]. The cases are encountered more frequently in females than males, and are bilateral in about 5%-8% of the cases [8]. Cystic lesions of the adrenal gland are rare in neonates and less than 5% of the cases are reported in children [9].

Adrenal cysts are categorized as any of the four major types: endothelial cysts (45%), pseudocysts (39%), epithelial cysts (9%) and parasitic cysts (7%) [8]. Other rare types of the lesion include dermoid, mesothelial and lymphangiomatous cysts [1].

Here, we report a case of adrenal pseudocyst encountered during dissection of an aborted human foetus of 24 weeks gestation in the Department of Anatomy, Regional Institute of Medical Sciences (RIMS), Imphal, Manipur.

## CASE REPORT

During dissection of aborted human foetuses of different gestational ages for the Post Graduate study in the Department of Anatomy, RIMS, Imphal, we encountered a cavity in the right adrenal gland of a female foetus of 24 weeks gestation. The dead foetuses were obtained from the Department of Obstetrics and Gynaecology, RIMS, Imphal after legal abortions with due permission from the party concerned and the study was carried out after getting clearance from the Institutional Ethics Committee. The cavity in the gland was unilocular and filled with reddish brown fluid (Figure - 1). The size measured 3, 1.5 and 0.8 cm in each greatest dimension. No cavity was detected in the left adrenal gland. The histological examination of the right adrenal gland was done using haematoxylin and eosin (H&E) stain. The stained sections revealed cavity with fibrous wall without recognizable lining cells. The adrenal parenchyma cells around the cavity wall appeared normal without atypical cells (Figure – 2 & 3).

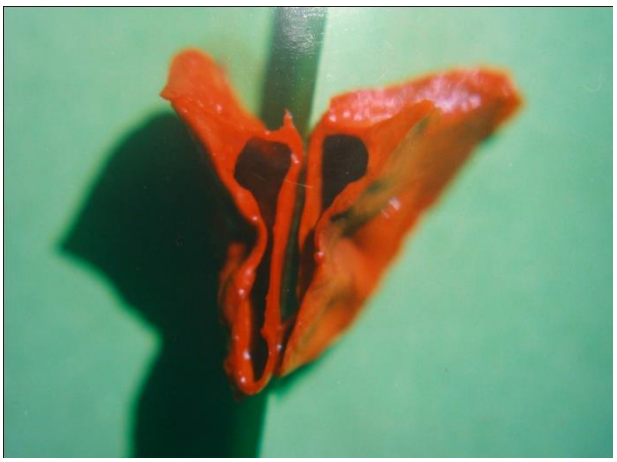

**Fig-1: Cut section of right adrenal gland showing cavity**

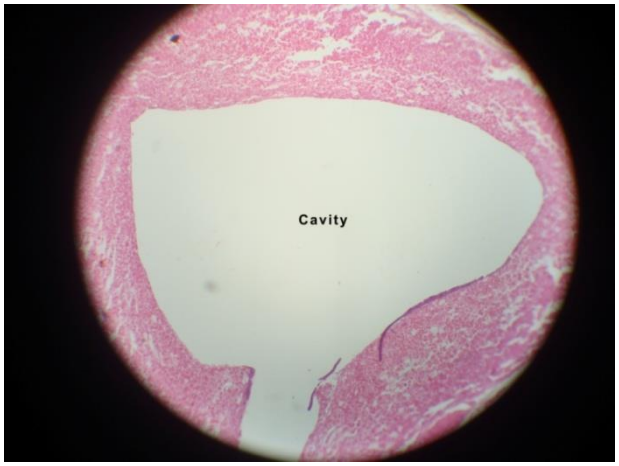


**Fig-2: Adrenal gland (H&E stain), 4x**

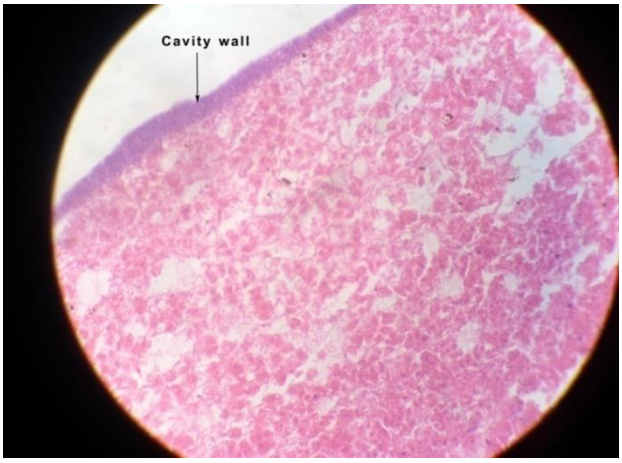


**Fig-3: Adrenal gland (H&E stain), 40x**

**DISCUSSION**

Adrenal pseudocyst is often ranked the second commonest cystic lesion of the adrenal gland next to endothelial cyst [3,8,10]. The lesions may arise in the cortex or medulla, and have fibrous wall devoid of recognizable lining cells [1]. Pseudocysts are usually unilocular and thick-walled whereas the endothelial vascular cysts are usually thin-walled and multilocular [4]. Endothelial cysts have clearly identifiable endothelial lining and may be angiomatous or lymphangiomatous. Epithelial cysts are defined as cysts with true epithelial lining [12]. Parasitic cysts are rare and identified by the presence of parasites or their constituents within the cysts, and most of these cysts are usually echinococcal in origin [13]. Majority of the pseudocysts are benign (93%) and the risk of

malignancy is positively correlated with the size, particularly if the lesion exceeds 6 cm in its greatest dimension [14]. Adrenal cysts larger than 10 cm are rare [10].

The pathogenesis of adrenal pseudocyst remains unclear and several mechanisms have been proposed. These include cystic degeneration of a primary adrenal neoplasm, degeneration of a vascular neoplasm or malformation and haemorrhage into the gland [14,15]. Another possibility is that the pseudocyst is true cyst which has lost its cellular lining because of inflammation and bleeding within the cyst [16]. In infants, adrenal cysts are usually of pseudocysts variety and thought to be secondary to adrenal haemorrhage [17]. The incidence of adrenal haemorrhage is reported as 1.7 per 1000 births based on the necropsy studies, but the incidence in utero remains unknown [18].

Pseudocyst is treated by surgical intervention if it shows symptoms, complications, increase in size, suspicion of malignancy, or if it is a functioning cyst. The intervention may either be an open surgery or a laparoscopic approach [14].

## CONCLUSION

Pseudocysts are one of the commonest varieties of cystic lesions of the adrenal gland. Adrenal cysts are rare lesions as such; however, the advancement in radiologic techniques has increased detection of the lesions. Most of the pseudocysts are benign and surgical intervention is required if the lesions are symptomatic or suspected of malignancy.

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