

ORIGINAL ARTICLE

OPEN ACCESS



## Painless Bloody Nipple Discharge In A Young Girl: Unusual Presentation of Cellular Fibroadenoma

Dr. Saurav Hira<sup>1</sup>, Dr. Anmol Taneja<sup>2\*</sup>, Dr. S.P. Khanna<sup>3</sup>

<sup>1</sup> Junior Resident, Department of Pathology, MMIMSR, Mullana, Ambala, Haryana

<sup>2</sup> Assistant Professor, Department of Pathology, MMIMSR, Mullana, Ambala, Haryana

<sup>3</sup> Professor, Department of Pathology, MMIMSR, Mullana, Ambala, Haryana

### OPEN ACCESS

#### Corresponding Author

Dr. Anmol Taneja

Assistant Professor,  
Department of Pathology,  
MMIMSR, Mullana, Ambala,  
Haryana

Received: 03-03-2024

Accepted: 14-03-2024

Available online: 05-04-2024



©Copyright: IJMPR Journal

### ABSTRACT

Adolescents rarely present with bloody nipple discharge, associated with benign breast diseases like benign phyllodes tumor and fibroadenoma. Even though they are usually benign, if there is a palpable lesion, a full investigation into the cause and course of treatment is necessary. We hereby report a case of 20-year-old young girl with bloody nipple discharge who had no previous significant medical history. Breast imaging reporting and data system (BI-RADS) classified the solid, oval-shaped, circumscribed mass seen on breast ultrasonography as category III. It was located in the right subareolar region. On FNAC, it was diagnosed as Cellular fibroadenoma and was confirmed on histopathological examination. In children the presenting signs and symptoms of bloody nipple discharge are not always seen, which makes the diagnosis difficult. So it is advisable to do proper evaluation using non invasive methods like ultrasonography and acquiring proper knowledge of the disease for better outcome.

**Key Words:** Benign, Cellular Fibroadenoma, Bloody nipple discharge.

### INTRODUCTION

In adolescents, fibro adenomas make up 50–60% of all benign breast mass lesions. They are typically asymptomatic, firm, smooth, mobile, and only infrequently manifest as a bloody nipple discharge in children and adolescents<sup>(1)</sup>. They typically manifest as a unilateral palpable mass in the breast.

Patients of all ages and genders may experience breast discharge <sup>(2)</sup>. While bilateral nipple discharge in children is almost exclusively linked to benign conditions, such as intraductal papilloma and mammary duct ectasia, and infrequently, fibroadenoma, it can also be linked to malignant conditions in adults <sup>(2)</sup>.

The cellular variants of juvenile fibroadenomas and their rich cellular stroma are distinguished by prominent glandular epithelium. In 0.5-2.5% of cases, fibroadenomas can infarct spontaneously. In that case they are painful and can also cause pain and bilateral nipple discharge <sup>(3)</sup>.

Even though it is less common, bloody nipple discharge is surgically significant because it may indicate breast malignancies<sup>(4)</sup>.

If one is properly informed about the different etiological factors or causes of bilateral nipple discharge in the adolescent age group, these kinds of uncommon presentations can be managed.

We report herein a case of 20-year-old young girl with cellular fibroadenoma accompanied by bloody nipple discharge.

### **Case History:**

A 20-year-old young female patient presented in surgery OPD with chief complaints of painless lump in right breast since one year and bloody nipple discharge from Right breast since 3-4 days. It was gradual in onset, non progressive, painless and had 2 episodes of bloody nipple discharge as shown in Fig. 1.

On examination, lump was 4 x 4 cm in size, involving upper and lower outer quadrants of right breast, non tender, mobile, not fixed to the underlying structures, accompanied with bloody nipple discharge. No regional/axillary lymphadenopathy/ peau d'orange appearance/ nipple retraction was present. Contralateral breast, nipple areola complex and overlying skin was normal. No local rise in temperature was found. Patient had history of Pulmonary Tuberculosis, diagnosed in the month of July 2023 and was on ATT since then. No other significant history of any hormonal therapy or polycystic ovarian syndrome was there.

Radiology of the breast lesion revealed multiple well defined ovoid shaped lesions in right breast: likely Fibroadenoma – BIRADS III lesion.

FNAC of the breast lump revealed cytological features consistent with Cellular Fibroadenoma as shown and described in Fig. 2a-2c.

Patient was advised for excision of the lump after obtaining the consent from the patient's parents. Excision of the lump was done and was sent for histopathological examination.

Histopathology of the lesion confirmed the diagnosis of cellular fibroadenoma as shown in Fig. 3a and 3b.



Fig. 1: Bloody nipple discharge from right breast.

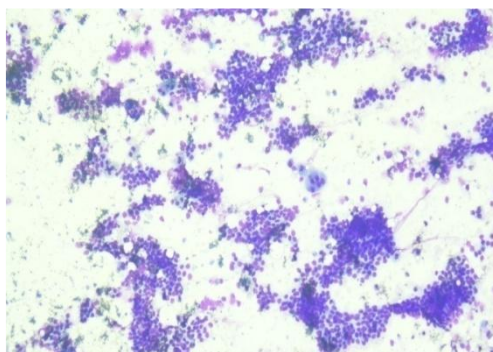


Fig. 2a:FNAC showing bimodal population of benign ductal and myoepithelial cells in a case of cellular Fibroadenoma. (L and G stain; X 100)

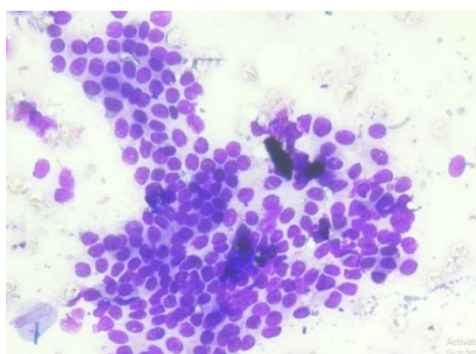


Fig. 2b: FNAC showing bimodal population of benign ductal and myoepithelial cells in a case of cellular Fibroadenoma. (L and G stain; X 400)

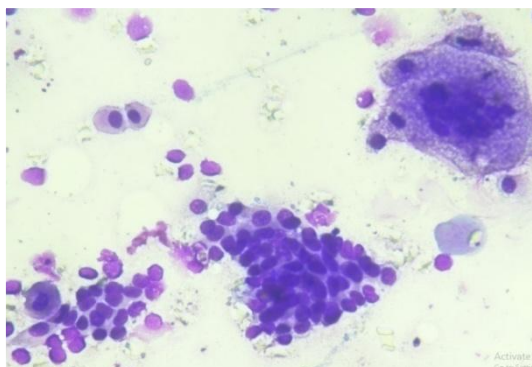


Fig. 2c: FNAC showing bimodal population of benign ductal and myoepithelial cells along with apocrine changes and stromal giant cell in a case of cellular Fibroadenoma. (L and G stain; X 100)

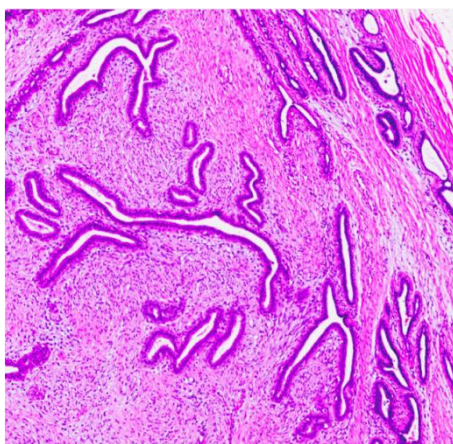


Fig. 3a: Cellular fibroadenoma, well circumscribed showing hypercellular stroma and uniform distribution of glands and stroma (H and E stain; X 100)

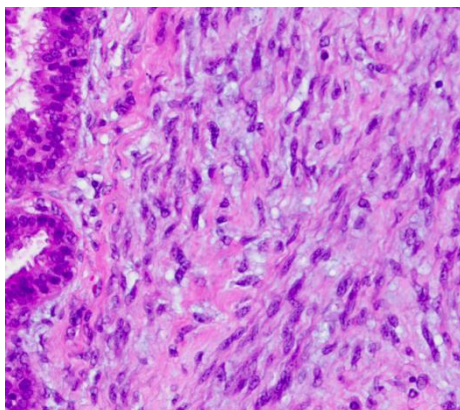


Fig. 3b: Cellular fibroadenoma, hypercellular stroma, without stromal cytological atypia (H and E stain; X 400)

## DISCUSSION:

Children with fibroadenoma rarely have blood-stained discharge from their nipples <sup>(3)</sup>. Many breast abnormalities can occur in adolescents and young adults, most of which are benign but bloody nipple discharge is extremely rare <sup>(5)</sup>.

During infancy or early childhood, nipple trauma or rashes, intraductal papilloma, benign phyllodes tumor, infarcted fibroadenoma, and duct ectasia are among the causes of bloody nipple discharge <sup>(6,7,8)</sup>.

Duct ectasia is the most frequent cause; however, its pathogenesis is unclear <sup>(9)</sup>.

There have also been few cases of spontaneous infarction of fibroadenomas of breast. Physical examination and FNAC may not be able to differentiate between benign/inflammatory and malignant masses if necrosis of the breast lesion occurs due to infarction <sup>(10,11)</sup>.

Thus, imaging modalities are required in such situations.

Due to its high sensitivity and lack of radiation risks, USG is the primary imaging modality for evaluating breast abnormalities. This makes it a good first option for making decisions about treatment, including assurance, follow-up imaging, and surgical treatment<sup>(2)</sup>.

CT/MRI is only used to assess the severity of the disease<sup>(12)</sup>. With typical findings of a cystic lesion or mammary glandular proliferation in the subareolar portion, USG can assist in differentiating solid tumors from duct ectasia or gynecomastia<sup>(2)</sup>. However, fibroadenoma is the main differential diagnosis in a case of solid neoplasm. Nonetheless, a variety of studies have been carried out to date, and each one points to a distinct set of causative variables in various investigations.

According to Kelly et al., mammary duct ectasia is the most frequent cause of bloody nipple discharge in infants<sup>(13)</sup>.

The largest known study of bloody nipple discharge in children and adolescents was carried out by Imamoglu et al. They found that duct ectasia was the most common cause of cystic lesions with bloody nipple discharge<sup>(4)</sup>, while Fowler et al.<sup>(3)</sup> proposed that spontaneous infarction of fibroadenoma was the primary cause of bloody nipple discharge in an adolescent girl.

Additionally, our study indicates that in rare circumstances, cellular fibroadenoma, can also be associated with bloody nipple discharge.

The primary focus of treatment options is addressing the underlying etiological cause. The cornerstones of care include surgical excision and biopsy, with the preservation of nipple. For benign tumors such as benign phyllode tumors and fibroadenomas, local excision is usually sufficient.

A thorough histological examination is required to rule out the possibility of an uncommon underlying malignant process, in which case surgery is required. However, one should carefully consider the possibility of long-term breast deformity, particularly in young girls<sup>(1)</sup>.

## CONCLUSION:

This case emphasizes how crucial it is to comprehend the potential underlying etiological causes of bloody nipple discharge in children. Bloody nipple discharge is uncommon, but it does happen occasionally. A thorough USG evaluation and an understanding of its features and results are beneficial for a precise diagnosis and any necessary therapeutic surgery that follows.

## REFERENCES:

1. Garcia CJ, Espinoza A, Dinamarca V, et al. Breast US in children and adolescents. *Radiographics* 2000;20:1605–12.
2. Lee, Ji Young. “Bloody nipple discharge caused by an intraductal papilloma of the breast in an adolescent girl: A case report.” *Radiology case reports* vol. 16,11 3346-3349. 28 Aug. 2021.
3. Fowler, Carol L. “Spontaneous infarction of fibroadenoma in an adolescent girl.” *Pediatric radiology* vol. 34,12 (2004): 988-90.
4. Imamoglu M, Cay A, Reis A, Ozdemir O, Sapan L, Sarihan H. Bloody nipple discharge in children: possible etiologies and selection of appropriate therapy. *Pediatr Surg Int* 2006;22: 158–63.
5. Schwartz, Richard H et al. “Painless bloody nipple discharge in a 16-month-old infant.” *Clinical pediatrics* vol. 45,9 (2006): 859-60.
6. Casteels-Van Daele M, Winjdaele L, Eeckels R, Eggermont E. Nipple discharge in children and adolescents: an irritating cause. *Clin Pediatr*. 1990;29:53.
7. Thomas WG, Williamson RCN, Davies JD, et al. The clinical syndrome of mammary duct ectasia. *Br J Surg*. 1982;69:423-425.
8. Lorenzen JR, Gravdal JA. Bloody nipple discharge. *Am Fam Physician*. 1986;34:151-154.
9. Sasaki F, Kido C, Sato Y, Yoshida M. Roentgenologic and ultrasonic appearance of bloody nipple discharge (article in Japanese). *RinshoHoshasen*. 1987;32:1567-1571.
10. Deshpande KM, Deshpande AH, Raut WK, et al (2002) Diagnostic difficulties in spontaneous infarction of a fibroadenoma in an adolescent. *DiagnCytopathol* 26:26–28
11. Ichihara S, Matsuyama T, Kubo K, et al (1994) Infarction of breast fibroadenoma in a postmenopausal woman. *Pathol Int* 44:398–400
12. Gao Y, Saksena MA, Brachtel EF, terMeulen DC, Rafferty EA. How to approach breast lesions in children and adolescents. *Eur J Radiol* 2015;84(7):1350–64.
13. Kelly VM, Arif K, Ralston S, Greger N, Scott S. Bloody nipple discharge in an infant and a proposed diagnostic approach. *Pediatrics* 2006;117:814–6.