ISSN- O: 2458 - 868X, ISSN–P: 2458 – 8687
National Library of Medicine - ID: 101731606

International Journal of Medical Science and Innovative Research (IJMSIR)
IJMSIR : A Medical Publication Hub
Available Online at: www.ijmsir.com
Volume – 9, Issue – 3, May – 2024 , Page No. : 61 – 66

Suprapubic Ectopic Breast Tissue With Features of Lactating Adenoma

[1]Dr. K. Ankita Simon, Department of Pathology and Lab Medicine, AIIMS Raipur

[2]Dr. Amit Kumar Chowhan, Department of Pathology and Lab Medicine, AIIMS Raipur

[3]Dr. Dharmendra Dugar, Department of General Surgery, AIIMS Raipur

[4]Dr. Yashita Gupta, Department of Pathology and Lab Medicine, AIIMS Raipur

Corresponding Author: Dr. Amit Kumar Chowhan, Department of Pathology and Lab Medicine, AIIMS Raipur

Citation this Article: Dr. K. Ankita Simon , Dr. Amit Kumar Chowhan, Dr . Dharmendra Dugar, Dr. Yashita Gupta, “Suprapubic Ectopic Breast Tissue With Features of Lactating Adenoma”, IJMSIR - May - 2024, Vol – 9, Issue - 3, P. No. 61 – 66.

Type of Publication: Case Report

Conflicts of Interest: Nil

Abstract

Ectopic breast tissue (EBT) may also be found outside the distribution of mammary ridge. Around thirty cases of EBT have been reported involver region till date. Ectopic breast tissue (EBT) occurs in about 0.4-6% of population.

To the best of our knowledge this is the first case of EBT we are reporting in supra pubic region showing features of lactating adenoma.

Case summary: A 22-year-old post natal patient (PNC) presented with supra pubic mass since 7 months which was painless, non-tender and gradually increasing in size. Ultrasound suggested large hemangioma/arteriovenous (AV) malformation. Fine needle aspiration cytology (FNAC) was reported as possibility of ectopic breast tissue. Excision biopsy of the same mass showed ectopic breast tissue with features of lactating adenoma.

Discussion: Ectopic breast tissue are relatively common and often misdiagnosed as either cut aneous apocrine tumors or an genital mammary like gland adenomas. In our patient, the breast tissue was located in the mid line of the abdomen, out of the defined mammary ridge. Interestingly, it contained lactating adenoma.

Conclusion: Though ectopic breast lesions are rare outside the mammary ridge, clinicians and pathologists should still be aware of their existence when formulating differential diagnosis for soft tissue masses even in the supra pubic region.

Keywords: Prolactinoma, Cutaneous, Pocrinetumors, Ectopic breast.

Introduction

Ectopicbreasttissue(EBT) may also be found out side the distribution of mammary ridge in subclavicular region, upper abdominal skin, sternum, face, neck, ear, dorsal scapula, knee, lateral thigh, and buttock [1]. EBT developing other than mammary line like in vulva region is also unusual and could be confused with other soft tissue lesions (like lipoma) or malignant lesions. Diagnosis is confirmed only after his to

pathological assessment of tissue[2]. Ectopic breast tissue (EBT) occurs in about 0.2-6% of population [3].

Vulvar ectopic breast is comparatively rare but so far around thirty cases have been reported, out of which two cases showed features of lactation, two fibroadenoma, one benign phyllodes and twenty five were carcinomas[4-6]. Two cases were reported inanteriorabdominal wall out of which only one was reported as lobular carcinoma [7]. One case was reported each from labiaminora, per clitoral region, perineum and anal region [8-11]. As far as our knowledge, only two cases are reported frosuprapubic region. One was reported in 65 year male patient as infiltrating ductal carcinoma, grade 2 with hematogenous metastatic to liver and pulmonary lymph nodes by By on JH et al [12]. Another suprapubic ectopic breast was reported as fibroadenoma by AI Harmi RA et al in 28 years old female patient [13]. Our patient showed ectopic breast in suprapubic location with features of lactating adenoma. Based on the information we have read we are reporting this one case of EBT in suprapubic region showing features of lactating adenoma.

Case Presentation

A 22 year-old PNC (post natal care) patient presented in the Department of general surgery on 18th day of post partum period with a complaint of suprapubic mass. The mass first appeared in 3rd month of pregnancy and during the follow-up period it was painless, nontender with a gradual increase in size. On physical examination 5x5 cm mass was observed in the suprapubic region in midline. Ultrasound done in a private diagnostic center showed a well-defined hypoechoic lesion of size 35x18x21 mm in the suprapubic region in the midline with increased vascularity, suggestive of large hemangioma / arteriovenous malformation. Fine needle aspiration cytology (FNAC) of the mass showed a cluster of ductal epithelial cells along with myoepithelial cells and foamy histiocytosis [Figure1].The possibility of ectopic breast tissue was considered.

The mass was excised under local anesthesia and was sent for histopathological examination. Grossly 4x 3.5 x 2 cm globular skin attached mass was received. Cut surface showed multiple cystic spaces ranging from 0.2-1 cm filled with thick fluid. No areas of hemorrhage or necrosis were seen [Figure2].

Microscopy showed well-circumscribed hyperplastic lobules of ductal epithelial cells separated by thin delicate fibrous septae. Ductal epithelial cells showed a hob nailing, small round nucleus with granular vacuolated eeosinophilic cytoplasm [Figure 3&4]. Immunohistochemistry demonstrated cytoplasmic positivity form Mammaglobin [Figure5] and prolactin [Figure oradeno 6]. Ductal epithelial cells showed nuclear positivity for GATA3 [Figure7] and focal patchy positivity for GCFDP-15. ER, PR, and p53 were sparingly positive. Cytokeratins markers and Ki67were negative. The patient did not complain of any recurrence at the same site or no other ectopic breast tissue was identified other than lesion post-surgery.

Discussion

EBTisanembryologicalabnormalitythatresultsfr ominvolutionalfailureofthemammaryridge,com monlyreferred to as the milk line [3]. Milk line

© 2024 IJMSIR, All Rights Reserved

or mammary ridge extends from axilla to groin , raising the possibility of EBT developing anywhere along the line . Ectopic breast tissue generally grow in axillary region next to breast tissue, arising in any other region is very rare. OD work, Track and colleagues were the first to report a hamartoma of ectopic breast tissue in the inguinal region[14].

In our case scenario, because of its location in the anterior abdominal wall near monspubis, the other differentials considered were apocrine tumors i.e., hidradenoma papilleferum, and anogenital mammary-like gland tumor (ML Gadenoma) Anogenital mammary-like glands (MLG) are normal anogenital region glands occurring at the junction of the skin and cloaca-derived mucosa . Often the distinction between cutaneous apocrine tumors and MLG adenoma from ectopic mammary tumors represents a diagnostic dilemma because both tumors share similar histologic features and have overlapping Immunohistochemical profile [15]. Histomorphologicaly all the three tumors are well circumscribed, with luminal/ ductal epithelial cells forming glands separated by thin fibro connective stroma. Luminal/ ductal epithelial cells have eosinophilic granular cytoplasm ,round to oval hyperchromatic nuclei with prominent nucleoli. Few glandular spaces show a hob nailing pattern with almost extruding large hyperchromatic nuclei and cytoplasmic vacuoles, features noted as lactational changes in mammary glands. On immunocytochemistry they show similar expression of ER, PR, and p63, suggesting the possible common embryo nicorigin of these tumors. The differentiation IHC markers used were Mammaglobin, GATA3 ,and prolactin. A sin literature Mammaglobin is expressed essentially by mammary glands henceforth was used as a differential marker which would be negative in cutaneous apocrine tumors [16]. Prolactin marker is usually positive in breast tissue with lactational changes [17]. Ectopic breast tissue also responds to hormone changes duringpregnancy,theymayevolveintoeitherbenig normalignantpathologicprocessessimilartothose seenin normally located breast tissue which explains prolactin positivity in this tissue [18].GATA 3 was used to highlight luminal cells of breast origin (GATA-3 actively maintains luminal epithelial differentiation in the adult mammary gland) and GCFDP-15show focal patchy positivity in cystic spaces fluid[19]. Recently GCDFP and MAM are the most commonly used IHC markers to identify tumors of breast origin, the former being more specific [20]. In view of the fact that EBT responds to hormonal changes which would not be seen in the case of apocrine tumors, our patient observed the growth of mass late during her pregnancy. EBT in a pregnancy-induced hormonal environment can give rise to lactating adenoma. After summating all the available clinicoradiological and histopathological details in our patient a diagnosis of lactating adenoma in EBT was given.

Lactating adenomas a benign breast tumor, which develops during pregnancy. On ultrasonography as well they represent circumscribed, homogenous, hypoechoic lesions. In some cases, lactational secretions are

© 2024 IJMSIR, All Rights Reserved

perceived as hypoechoic care as. Most often regresses spontaneously after cessation of breast feeding and no additional treatment is required. If the lesion does not regress and produces severe pain, surgical management is the most feasible option. In our case since the mass presented in the postpartum period, bromocriptine was not advised, since bromocriptine suppresses prolactin secretion which could affect the production of milk. Vulva ectopic breast tissue with features of lactating adenoma can be misdiagnosed as cut aneous apocrine tumors oradeno carcinomas if breast tissue is not anticipated.

Conclusions

The uncommonness in the presentation of EBT with features of lactating adenoma can often be difficult to treat by clinicians. Lesions alike these can develop into benign or malignant and are often described in dermatopathology books in conjunction with cutaneous apocrine tumors. We would recommend the best way to establish a diagnosis for such lesions is to compare them with analogous well-recognised lesions occurring in breast. It is worthwhile to report such cases , so they can be identified and documented for future references while drawing clinicopathological correlations in alike cases . Thus, will facilitate their distinct classification in literature. Once an excisional biopsy is done and the lesion is confirmed histologically ,the anxious patient can be reassured.

References

1. De Filippis EM, Arleo EK: The ABC so accessory breast tissue: basic information every radiologist should know. American Journal of Roentgenology. 2014, 202 (5): 1157-62. 10.2214/AJR.13.10930
2. Ishigaki T, Toriumi Y, Nosaka R, Kudou R , Imawari Y, Kamio M, et. al: Primary ectopic breast cancer of the vulva, treated with local excision of the vulva and sentinel lymph node biopsy: a case report.. Surgical Case Reports. 2017, 3(1): 69.10.1186/s40792-017-0343-x
3. Fachinetti A, Chiappa C, Arlant V, et al.: Metachronous bilateral ectopic breast carcinoma: a case report . Gland Surgery. 2018,7(2):234-38.10.21037/gs.2017.11.14
4. Scarabin C, Koskas M, Bornes M, Azria E, Luton D:Gigantomastia and vulvar lactating adenoma in a patientwith myasthenia during pregnancy. American Journal of Obstetrics Gynecology. 2010, 203(4):
5. Anunobi CC, Obiajulu FJ, Banjo AA, Okonkwo AO: Vulva fibro adenoma associated with lactatinga denomaina 26-year-old Nigerian female. Case Reports in Pathology. 2013, 195703:
6. Zhang J, Chen Y, Wang K, XiM,Y ang K, Liu H.: Prepubertal vulval fibroma with acoincidentalectopic breast fibro adenoma: report of an unusual case with literature review. Journal of Obstetrics and Gynaecology Research. 2011,37 (11): 1720-5.
7. van Herwaarden- Lindeboom MY, van Hillegersberg R, van Diest PJ: Ectopic lobular breast cancer on the anterior chest wall: arareentity. Journal of Clical Pathology. 2007,60(8):940 1. 10.1136/jcp.2005.034488
8. Fujii DT, Korzen CA, Levine TC, Heitmann RJ: Phyllodes tumour of the labiaminora. BMJ Case Rep.2019,12(11):10.1136/bcr-2019-229917

© 2024 IJMSIR, All Rights Reserved

9. Song Y, Zhang J, LiuZ, Fan Y, Luo M, Wei Y, et. al: Periclitoral accessory breast tissue in a lactating woman: A case report. Medicine (Baltimore).2018,97(43):
10. Eom HJ, Ko BS, Song IH, Gong G, Kim HH: Ectopic Male Breast Cancer in the Perineum: A Case Report. Journal of Breast Cancer. 2017, 20 (4): 404-407. 10. 4048 /jbc. 2017.20.4.404
11. Chan NG, Penswick JL, Labelle E, Driman DK: Ectopic breast tissue presenting as an anal polyp. Canadian Journal of Surgery.2007,50(6):404-407.
12. Byon JH, An AR, Shin JY, Choi EJ: Ectopic Male Breast Cancer in Suprapubic Area That Relapsed with Hematogenous Metastasis. Journal of Breast Cancer. 2021, 24(3): 344-48.10.4048/jbc.2021.24.e21
13. Al Harmi RA, Alawi N, Al-Hashimi F, Almehza J.: Fibro adenomaina Case Reports CP supra pubic accessory breast. BMJ Case Reports. 2021,14(9):10.1136/bcr-2021-242665
14. D worak O, Reck T, Greskotter KR, Köckerling F: Hamartoma of an ectopic breast arising in the inguinal region. Histopathology. 1994,24(2): 169-71.
15. Piris A, Peng Y, Bousah main C, Essary LR, Gudewicz TM, Hoang MP: Cut aneous and mammary apocrinecarcinomas have different immuno profiles. Human Pathology. 2014, 45(2):320-6.10.1016/j.humpath.2013.09.007
16. Watson M.A., Darrow C., Zimonjic D.B., Popescu N.C., Fleming T.P. :Structure and transcriptional regulation of the humanmammaglobin gene, a breast cancer associated member of the uteroglobin gene family localized to chromosome 11q13. Oncogene.1998,16:817-824. 10. 1038 /sj. onc.1201597
17. Hennighausen L, Robinson GW, Wagner KU, Liu W: Prolactin signaling in mammary gland development .Journal of Biological Chemistry.1997,272(12):7567-9.10.1074/jbc.272.12.7567
18. Choi J, Yang YB, OhDY.: Ectopic Breast Tissue in the Inguinal Region: A Case Report and Suggestion of Indications for Excision. Frontiers in Surgery. 2022, 9:894416.10.3389/fsurg.2022.89441.
19. Chou J, Provot S, Werb Z.: GATA3 in development and cancer differentiation: cells GATA have it . Journal of Cellular Physiology. 2010, 222 (1): 42-9.
20. Huo L, Zhang J, Gilcrease MZ, et al.: Gross cystic disease fluid protein-15 and Mammaglobin A expression determined by immunohistochemistryis of limited utility in triple- negative breast cancer Histopathology. 2013, 62 (2): 267-74.

Legend Figure

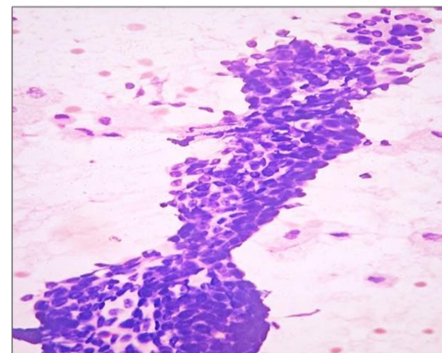

Figure 1: Photomicrograph of FNAC smear showing cluster of ductal epithelial cells with myoepithelial cells and foamy histiocytes. [Papx40]

© 2024 IJMSIR, All Rights Reserved

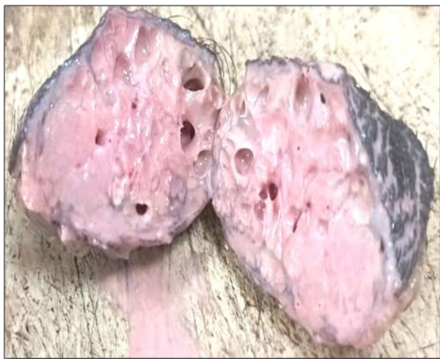

Figure 2: Gross photomicrograph of suprapubic mass.

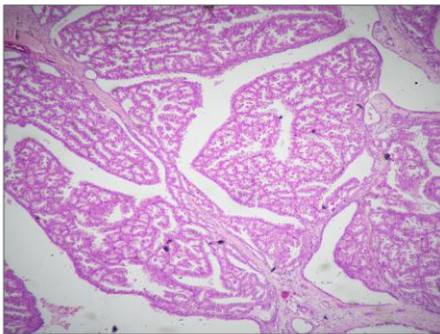

Figure 3: Excisional Biopsy: Photomicrograph show well circumscribed hyperplastic lobules of ductal epithelial cells separated by thin delicate connective tissue. [H&Ex10]

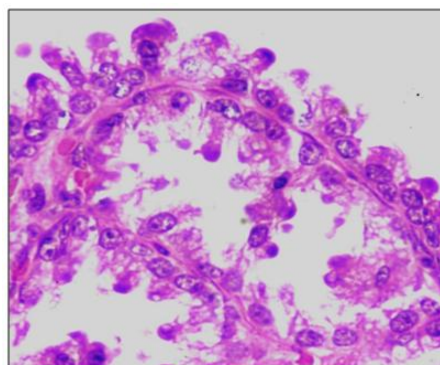

Figure 4: Photomicrograph show glands lined by ductal epithelial cells with hobnailing, small round nucleus and granular vacuolated eosinophiliccytoplasm. [H&Ex40]

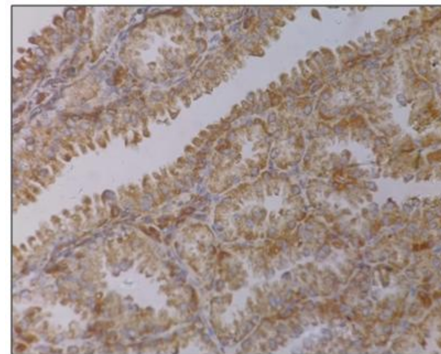

Figure 5: Photomicrograph of IHC mammoglobin: Ductal cells demonstrated cytoplasmic positivity for mammoglobin. [IHCx20]

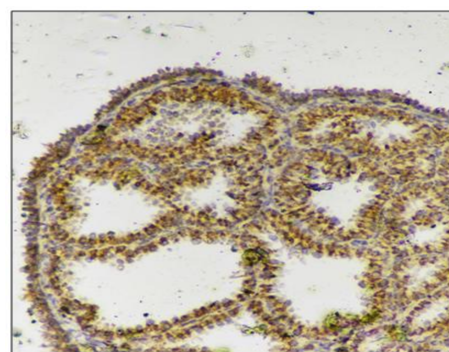

Figure 6: Photomicrograph of IHC prolactin: Cells demonstrated cytoplasmic positivity for prolactin.[IHCx20]

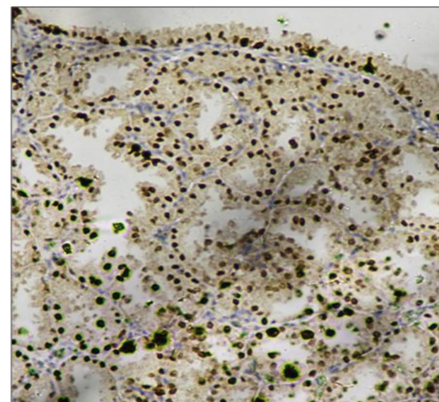

Figure 7: Photomicrograph of IHC GATA 3 : Cells show nuclear positivity for GATA3.[IHCx20]

© 2024 IJMSIR, All Rights Reserved