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Case Report Open Access

Breast Fibroadenoma and Uterine Fibroid in a Female with HACEK Endocarditis: is there any Possible Correlation?"

Xeiad Cerrag*

Diagnostic Pathology, Cairo, Egypt

Abstract

Women health care is stereotypically epitomized and confined to women's reproductive and maternal capacities which tackle only a tiny portion of women's general health. Studying diseases with salient female predilections and/or provoke feminine manifestations should be fitted snugly into a coherent database system toward finding effective policies in treating such afflicted population. Autoimmune diseases and microbial pathoses are blatant examples of risky diseases which are encountered strikingly in females. Linking the dots, this paper reports a breast fibro adenoma and concomitant two uterine fibroids of the anterior wall in a 22-year-old female with HACEK endocarditis. This report is ushered to capture the clinician's rapt attention to such a plausible association.

Keywords: Breast fibro adenoma; Uterine fibroid; HACEK endocarditis

Background

HACEK, as an acronym, refers to a grouping of gram-negative bacilli which are *Haemophilus species, Aggregatibacter species, Cardio bacterium hominis, Eikenella corrodens,* and *Kingella species*. These organisms mostly cause infective endocarditis [1]. Among other infections they induce are periodontal infections, osteomyelitis, peritonitis, otitis media, conjunctivitis, pneumonia, septic arthritis, urinary tract infections, bacteremia and even brain abscess [2]. To the best of the author's knowledge, HACEK endocarditis was never been reported in association with neither uterine fibroid nor breast fibro adenomas.

Case Presentation

A 22-year-old female presented to our hospital with undiagnosed medical condition. Her signs and symptoms included chest pain, general fatigue, persistent coughing, dizziness, photosensitivity and weakness. Her previous medical history included laboratory investigations for hypothyroidism, Addison's disease, autoimmune diseases, tuberculosis, and other granulomatous pathoses. All were negative. The lab results read normal to within normal. Consulting an otolaryngologist, his report diagnosed no more than mild otitis media and sinusitis. Referring this patient to a dentist, he reported a variable periodontal affection: from mild to severe local periodontitis, geographic tongue, chronic osteomyelitis at an extraction site, sialadenitis and recurrent mucosal ulceration. Sonographic assessment of the head and neck as well as salivary and blood culture were requested. Running these tests, the microbiological report was highly suggestive of HACEK infection of which *haemophilus* and *aggregatibacter* species were the most frequent. The sonographic study revealed normal structures, save for non-specific cervical lymphadenopathy.

The patient was referred to a cardiologist to manage the condition. After reassessing her condition by the transthoracic echocardiogram, dilated left ventricle and rheumatic affectation of the mitral valve with regurgitation were concluded. There was no evidence of any vegetation. The patient started a therapeutic course of long-acting penicillin.

Approaching the patient's chest pain chronic coughing, a plain chest x-ray was performed Figure 1. Both hilar shadows were prominent with accentuated broncho-vascular markings-consistent with bronchitis. In a 16-month-interval of follow up, the patient health was dramatically improved. Later, the patient manifested a breast lump which was evident at the ultrasound study. There were a mass at the right breast (10 O'clock) and a small cyst at the left breast (3 O'clock). The mass measured 1.46 × 1.65 cm at its greater dimensions Figure 2 while the cyst measured 0.98 × 0.64 cm Figure 3. Running a quick abdomino-pelvic scan to assess the lymph nodes, two uterine fibroids were incidentally discovered. The largest fibroid was 3 × 2.6 cm and the other one measured 2.2 × 2.3 cm at its greater dimensions Figure 4.

The patient was educated about her benign conditions and the significance of follow-up. The surgical option of excising these benign masses was optional, especially with her clean familial history of any breast or ovarian cancers. She opted for get her right breast lump excised with no interventions ad hoc the uterine fibroids.

Upon submitting the biopsy to the microscopic examination, the

Figure 1: Plain chest x-ray revealing prominent hilar shadows with accentuated broncho-vascular markings.

***Corresponding author:** Xeiad Cerrag, Diagnostic Pathology, Cairo, Egypt, Tel: 00201229708481; E-mail: xe.cerrag@gmail.com

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slides displayed an admixture of hyper cellular stromal and epithelial proliferations. Such hyper cellularity recapitulated a pericanalicular pattern where the proliferation of stromal cells was observed mainly in a circumferential fashion. The epithelial component was slightly hyperplastic. Neither myxoid changes nor dystrophic calcifications were evident Figure 5. This histological picture was consistent with fibro adenoma.

Figure 2: Ultrasound image showing a mass measuring 1.46 x 1.65 cm at the right breast (10 O'clock).

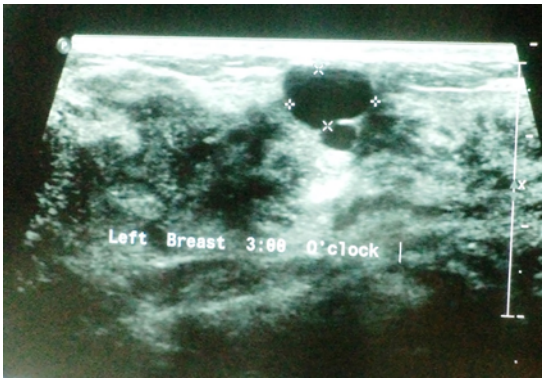

Figure 3: Ultrasound image showing a cyst measuring 0.98 × 0.64 cm at the left breast (3 O'clock).

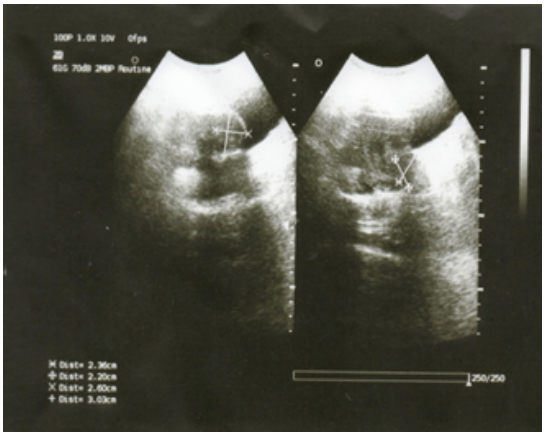

Figure 4: Ultrasound image showing two uterine fibroid masses. The largest fibroid was 3 x 2.6 cm and the other one measured 2.2 × 2.3 cm at its greater dimensions.

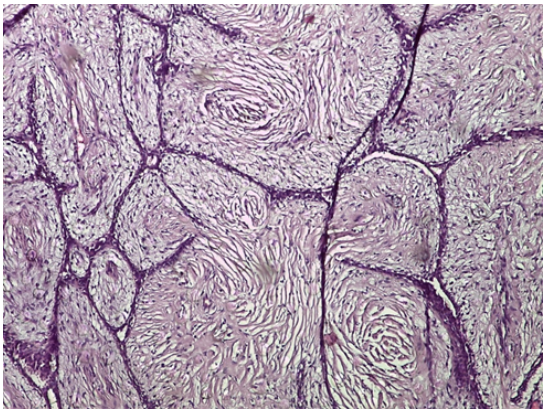

Figure 5: Photomicrograph showing an admixture of hypercellular stromal and epithelial proliferations in an anastomosing pattern (H&E stained, Original magnification 20 ×)

Discussion

HACEK infection is rarely reported in the medical literature. The available data are, even though, insufficient to assess its epidemiology. Nonetheless, HACEK endocarditis was not previously reported in young females, concomitant with uterine fibroid masses or breast fibroadenomas. In this case, such chronic infections have debilitated the young female and dissuaded her from actively contributing to her trails of life.

Complicating matters, she developed, later, a breast fibroadenoma. True the non-neoplasticity of breast fibroadenoma (BFA), the analyses of the cellular components of BFA by means of polymerase chain reaction demonstrated that both the stromal and the epithelial cells are polyclonal [3]. Although data do support observation and non-operative treatment, the mainstay of treatment of BFA is complete excision [4].

Contrary to BFA, uterine fibroids, the commonest benign uterine tumors, are monoclonal tumors of the uterine smooth muscle cells and consist of large amounts of extracellular matrix that contain collagen, fibronectin, and proteoglycan. The most likely presentation of fibroids is by their effect on the woman's menstrual cycle or pelvic pressure symptoms. The gold standard diagnostic modality for uterine fibroids appears to be gray-scale ultrasonography. Managing uterine fibroids can be approached by medical, surgical, or minimal access techniques [5]. In the reported case, the patient, given her virginity, refused to approach such fibroids and complied with close follow-up until she gets married.

Conclusion

There may be a relative association between the low-grade infection, HACEK endocarditis, and the development of breast fibro adenoma and uterine fibroid.

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