Intraductal papilloma of the breast: A case report

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KEYWORDS

Bloody nipple discharge;
Intraductal papilloma;
Sonography.

Abstract Intraductal papillomatous lesions in the breast may be manifestations of different histological types of tumors, including papillomas and intraductal papillary carcinomas. Intraductal papillomas are relatively rare, with an incidence of 2–3%. They are benign tumors that arise from the mammary duct epithelium. We observed a tumor of this type in a 51-year-old woman who had noted bloody discharge from her right nipple. She was referred for breast sonography a few days later.

The sonographic examination revealed a dilated duct enclosing a mass, which was surgically removed. Histological examination revealed that the lesion was benign (intraductal papilloma).

This case illustrates the role of imaging in confirming clinical diagnoses of papillomatous lesions. Histological confirmation is always necessary, however, to rule out the presence of intraductal papillary carcinoma.

Sommario Le alterazioni papillomatose intraduttali della mammella includono un vasto range di lesioni con caratteristiche diverse, tra cui il papilloma e il carcinoma papillare intraduttale.

Il papilloma intraduttale è una lesione relativamente rara con un'incidenza relativa del 2–3%. Si tratta di un tumore benigno che origina dall'epitelio dei dotti mammari.

Riportiamo il caso di una donna di 51 anni presentatasi all'ambulatorio ecografico del nostro Istituto, dopo aver notato una secrezione ematica dal capezzolo di destra, pochi giorni prima.

L'esame ecografico evidenziava un dotto dilatato con all'interno una vegetazione. Si procedeva a escissione chirurgica; l'esame istologico poneva la diagnosi di lesione benigna (papilloma intraduttale).

Il caso in esame sottolinea il ruolo dell'imaging, che è quello di confermare la diagnosi clinica di lesione papillomatosa, mentre la diagnosi finale è sempre istologica in particolare la diagnosi differenziale con il carcinoma intraduttale papillare.

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Introduction

Intraductal papillomas are benign tumors that originate from the epithelium of the lactiferous ducts. The incidence of these tumors is 2–3%; they develop in women between the ages of 30 and 77 years [1]. Two types of intraductal papillomas are generally distinguished: central and peripheral. The central type develop in the subareolar region; they are solitary tumors and arise most frequently during the perimenopausal period. Peripheral intraductal papillomas tend to be multiple, and they develop in young women, arising within the terminal duct-lobular unit [2].

Macroscopically, the lesion presents as an oval or roundish mass located within a dilated lactiferous duct; the mass may be pedunculated or broad-based, and it generally measures a few millimeters in diameter. Histological analysis reveals proliferation of the ductal epithelium characterized by myoepithelial cells and a fibrovascular stroma [1]. Clinically, 72% of all cases present with bloody discharge from the nipple [3,4] caused by the fragility of the proliferating, disorganized epithelium, which tends to breakdown and bleed. Although these tumors are benign, there is a great deal of controversy surrounding their

diagnosis [5]. This is due to the fact that intraductal papillomatous breast lesions are associated with a broad range of histological types, with different characteristics. At one end of the spectrum are intraductal papillomas; at the other end are lesions such as intraductal papillary carcinomas [6].

We decided to report the following case because it is quite typical. The patient provided informed consent to the publication of this report.

Case report

The patient was a 51-year-old perimenopausal woman with two children who had been born after normal labor and delivery and breastfed. She was not receiving hormone replacement therapy. She was referred to our sonography clinic for bloody discharge from the right nipple.

The physical examination revealed no evidence of lumps, asymmetry, or dimpling of the skin or nipple. A small amount of bloody fluid appeared when pressure was exerted on the nipple.

The sonographic examination revealed a solid mass measuring 2.45 mm (long axis) within a dilated duct [Fig. 1] inside the anterosuperior quadrant.

Considering the size of the lesion and after reviewing the negative mammogram the patient had had six months earlier, we requested an immediate surgical consultation. The mass was excised in the Day Surgery Unit, and the histological examination revealed that it was benign (intraductal papilloma, central). After the surgery, all of the patient's symptoms disappeared.

Conclusions

Differential diagnosis and management of papillary breast lesions can be extremely complex. The mammographic appearance of an intraductal papilloma is that of a well-defined, roundish, solitary subareolar mass surrounded by a radiolucent halo; in 25% of all cases the tumor is associated with large calcium deposits [6]. However, these tumors are not always visible on standard mammograms.

Sonographically, they are associated with three basic patterns: that of an intraductal mass, with or without duct dilatation; that of an intracystic mass; and that of a predominantly solid formation that occupies virtually all of the duct [1]. Color and power Doppler imaging reveal abundant vascularization with branches arising from a central pedicle [6]. Shear-wave elastosonographic findings provide additional information that allow more specific characterization with respect to that possible with B-mode sonography.

In the presence of a papillomatous lesion, it can be very difficult to arrive at a definitive diagnosis on the basis of clinical and radiological findings. Magnetic resonance imaging may thus be indicated. Four MRI patterns have been documented thus far: an oval-shaped lump that partially fills the duct, an irregularly-shaped mass that completely fills the duct, a solid or cystic mass that remains attached to the wall of the duct and protrudes outward, and finally an occult lesion that is manifested indirectly by dilatation of the duct [4]. In general, the lesions are

Figure 1 Intraductal papilloma. Sonography discloses a dilated milk duct that contains an oval-shaped hypoechoic mass with a broad base (B) and a long axis measuring 2.45 mm (A).

hyperintense in both T1- and T2-weighted sequences. MR ductography performed with standard coils or with dedicated microscopic coils represents a new frontier for the study of these lesions with MRI [7].

In conclusion, there is currently no imaging technique that can furnish a definitive diagnosis: therefore, pathological confirmation is always needed. Surgical excision is generally preferable to biopsy techniques like FNAC or CNB [8]: it allows thorough assessment of even the smallest lesions.

Conflict of interests

The authors have no conflicts of interest to disclose.

Appendix A. Supplementary data

Supplementary data related to this article can be found online at [doi:10.1016/j.jus.2012.03.002](https://doi.org/10.1016/j.jus.2012.03.002).

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