

---

# Invasive Cystic Hypersecretory Ductal Carcinoma Of Breast: A Rare Case Report

K Mardi, J Sharma

---

## Citation

K Mardi, J Sharma. *Invasive Cystic Hypersecretory Ductal Carcinoma Of Breast: A Rare Case Report*. The Internet Journal of Pathology. 2007 Volume 7 Number 1.

## Abstract

Cystic hypersecretory ductal carcinoma (CHC) of the breast, first described in 1984, is a rare variant of ductal carcinoma. This report describes one such grossly and microscopically distinctive multicystic form of invasive duct carcinoma of the breast. Only 8 such cases have been reported in the literature so far. The importance of correct diagnosis of this potentially aggressive lesion is emphasized. The differential diagnosis of breast lesions with predominantly cystic growth pattern is discussed in detail.

## INTRODUCTION

Cystic hypersecretory lesions of the breast are rare and comprise of a spectrum of pathologic lesions including cystic hypersecretory hyperplasia (CHH), atypical CHH, and cystic hypersecretory carcinoma (CHC)<sup>1,2</sup>. After the initial report of CHH and CHC, the entire spectrum of lesions were described by Guerry et al in 1988<sup>3</sup>. Among these, the invasive cystic hypersecretory carcinoma is the rarest, with only eight cases being reported so far. The unique morphological features of this rare entity has prompted us to present this case report.

## CASE REPORT

A 45-year-old woman presented with a palpable mass in her left breast. On clinical examination the mass was about 2x2cm in size, soft in consistency. USG showed a cystic and lobulated mass. FNA of the breast lump was performed and was reported as duct cell carcinoma of the breast. Modified radical mastectomy of the left breast was conducted.

## GROSS FINDINGS

Gross pathologic examination of the specimen revealed multiple cystic areas filled with thick gelatinous grey white to greenish coloured secretions. These cysts varied from 0.5 to 3cm in diameter. Some of the cysts were showing irregular grey white solid areas in the adjacent breast parenchyma

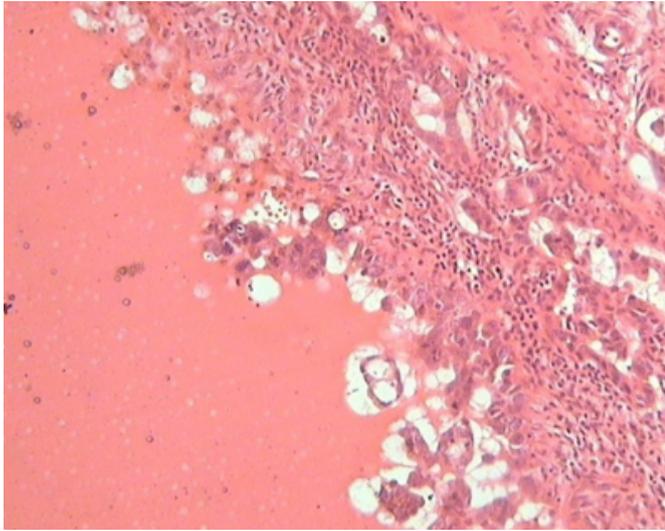
## MICROSCOPIC FINDINGS

Microscopically these cysts comprised of dilated ducts containing thyroid colloid like eosinophilic secretions. The

homogenous secretions retracted from the lining epithelium, producing scalloped margins. The cyst lining epithelium showed variable patterns. The lining of the cysts in most areas showed proliferative change ranging from atypical hyperplasia to intraductal carcinoma of micropapillary type. The lining of the cysts in some areas was flat to cuboidal and was devoid of atypia. The intraductal component was accompanied by an invasive component with solid nests and tubules of high grade carcinoma. Histochemical staining for cyst secretions were positive for PAS and alcian blue. The case was diagnosed as invasive cystic hypersecretory carcinoma. The three axillary lymph nodes also showed metastatic deposits.

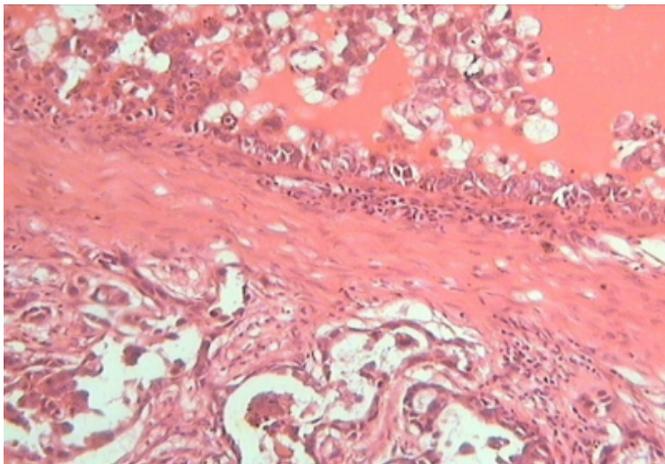
**Figure 1**

Figure 1: Photomicrograph showing the cyst wall lining(H&E,40x)



**Figure 2**

Figure 2: photomicrograph showing cyst wall along with the invasive component(H&E,40x)



## DISCUSSION

Cystic hypersecretory lesions of the breast are rare. These breast lesions encompass a spectrum of pathologic lesions including cystic hypersecretory hyperplasia (CHH), atypical CHH, and cystic hypersecretory carcinoma (CHC). Only seven cases of invasive CHC have been reported in the literature so far.<sup>1</sup>

In 1984, Rosen and Scott,<sup>1</sup> defined cystic hypersecretory carcinoma as a subtype of intraductal carcinoma of the breast. The unique morphologic features of cystic hypersecretory carcinoma are marked secretory activity of a thyroid colloid-like substance and cyst formation lined by pseudostratified to micropapillary epithelium.<sup>1,2</sup> Cystic

hypersecretory carcinoma is differentiated from cystic hypersecretory hyperplasia by a micropapillary cyst lining with cytologic atypia. If no cytologic atypia is present and the epithelium is flat or cuboidal, the lesion is characterized as cystic hypersecretory hyperplasia.<sup>1,2,3</sup> Invasion is heralded by solid nests of invasive carcinoma and is usually poorly differentiated with no hypersecretory characteristics. Extravasation of cyst material into the stroma does not indicate invasion.<sup>1,2,3</sup>

Differential diagnosis for hypersecretory carcinoma includes benign fibrocystic disease, hypersecretory hyperplasia, juvenile papilloma, juvenile secretory carcinoma, and mucinous carcinoma.<sup>1</sup> Benign disease can be differentiated by thorough sampling for foci with micropapillary protrusions and atypia. Extensive papillary protrusions in cysts in young patients may be mistaken for papilloma; however, the typical eosinophilic secretions of hypersecretory lesions are not seen in papillomas. Juvenile secretory carcinoma contains vacuolated cytoplasm and more bubbly secretions, which are not features of hypersecretory carcinoma. Mucinous carcinoma will also show bubbly secretions, which are rather pale and noneosinophilic and which do not show linear cracking artifacts. Histochemical stains are of limited value for differential diagnosis; carcinoembryonic antigen and  $\alpha$ -lactalbumin may or may not be positive in hypersecretory carcinoma. Staining of secretions in lining cells as well as cyst lumens will be negative for thyroglobulin, and may be useful if metastatic thyroid carcinoma is included in the differential diagnosis. Staining of secretions with mucicarmine is typically positive in cyst lining cells with cytoplasmic clearing near the luminal surface. Mucicarmine-positive staining is not found in the bulk of the secretions within the cysts.

Invasive CHC tends to have aggressive behavior. Review of 33 cases of cystic hypersecretory carcinoma, including the current case, indicate that only 9 cases presented with invasive disease.<sup>5</sup> Two of these cases had positive nodes and 2 had distal metastases. Longer follow-up and study of additional cases will be necessary to determine if this lesion has distinctive clinical characteristics.

## References

1. Rosen PP, Scott M. Cystic hypersecretory duct carcinoma of the breast. *Am J Surg Pathol* 1984;8:31-41.
2. Rosen PP, Obermann HA. Tumors of the Mammary Gland. Rosai J, Sobin LH, eds. Washington, DC: Armed Forces Institute of Pathology; 1993:226-231. *Atlas of Tumor Pathology*; 3rd series, fascicle 7.

3. Guerry P, Erlandson RA, Rosen PP. Cystic hypersecretory hyperplasia and cystic hypersecretory duct carcinoma of the breast. *Cancer* 1988;61:1611-1620.

4. Lee JS, Lee YJ. Invasive cystic hypersecretory carcinoma

of the breast: a case report. *J Korean Med Sci.* 2004;19:149-51.

5. LeeJS, LeeYJ. Invasive Cystic Hypersecretory Carcinoma of Breast :A Case Report .*J Koean Med Sci*2004;19:149-51.

**Author Information**

**Kavita Mardi, MD, DNB**

Assistant Professor, Dept of Pathology, Indira Gandhi Medical College

**Jaishree Sharma, MD**

Professor, Dept of Pathology, Indira Gandhi Medical College