Invasive solid papillary carcinoma with invasive lobular and invasive breast carcinoma, no special type: a rare association

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DESCRIPTION

A 38-year-old woman visited a breast clinic with a history of lumpectomy in the left breast. Mammography prior to lumpectomy showed Breast Imaging Reporting and Database System (BI-RADS) 4b lesion in the upper outer quadrant of the left breast measuring 5.5×3.5×3 cm. Before proceeding with a definitive therapy, the paraffin blocks were reviewed. Histopathological examination showed solid tumour nodules separated by fibrovascular cores with the periphery of tumour showing ragged contours in a desmoplastic stroma imparting a jig-saw pattern occupying 70% of the tissue. The cells were bland looking with low-grade atypia (figure 1A–C). The adjacent area showed tumour cells arranged as clusters and tubules (figure 1D) as well as cords and single-file pattern (figure 1E) (10% each) and foci of lobular carcinoma in situ (LCIS) (5%). P63 immunostain was negative at the periphery of the tumour nodules, confirming a

diagnosis of solid papillary carcinoma (SPC) and invasive breast carcinoma of no special type (IBC-NST) (figure 1F,G). E-cadherin was retained in the invasive solid papillary component and NST while lost in the invasive lobular component (ILC) (figure 1H,I). No extracellular mucin was seen. Chromogranin was negative. Ancillary studies showed a luminal type A phenotype with ER, PgR positivity and negative HER2. Ki-67 labelling index was 10%. A final diagnosis of an invasive SPC (70%) with conventional IBC-NST type (10%) and ILC (10%) was rendered. The invasive component had Nottingham histological grade 2 (glandular (acinar)/tubular differentiation: score 2, nuclear pleomorphism: score 2, mitotic rate: score 2 (6/10 High power field (hpf); Filed Diameter (FD): 0.5 mm)). The patient underwent breast conservative surgery (BCS) with axillary dissection at our institute as the margins of the previous surgery were positive. Axillary lymph node dissection was done as per institute protocol since clinically few lymph nodes were enlarged and as there was a dominant invasive component. Residual tumour nodules of SPC were identified along with LCIS. Metastatic carcinoma was identified in 2 out of 21 lymph nodes which showed solid deposit with focal ductal differentiation (pathological stage pT3N1).

SPC was first reported by Maluf and Koerner in 1995.¹ It is a rare breast carcinoma usually reported in postmenopausal women accounting for <1% of all breast cancers. It has an excellent prognosis with less propensity for lymph node metastasis, local recurrence and distant metastasis, and thus, wide local excision or BCS with or without axillary dissection and adjuvant treatment is the preferred treatment. SPC can coexist with other invasive carcinomas like colloid carcinoma, tubular carcinoma, lobular carcinoma and the conventional type and thereby changing the treatment from a conservative to more aggressive approach. This 3-in-1 combination has been described in literature by Nassar *et al* in 2006 and Tan *et al* in 2016.^{2,3} The present case underscores the multifaceted nature of SPC and significance of sampling of tumour with judicious application of immunohistochemistry.

Figure 1 (A–C) Solid papillary carcinoma. (A) Tumour arranged as solid nodules separated by thin fibrovascular septae (×40). (B) Ragged infiltrative edges of tumour into the adjacent parenchyma (×40). (C) Low-grade nuclear atypia (×200). (D) Invasive carcinoma of no special type (NST) arranged as tubules in a desmoplastic stroma (×40). (E) Invasive lobular carcinoma arranged as cords and single-file pattern (×200). (F, G) p63 loss in the solid papillary carcinoma and invasive carcinoma, NST, respectively (×100). (H) E-cadherin loss in the invasive lobular component with retention in the periphery of lobular carcinoma in situ (×200). (I) E-cadherin retained in the solid papillary carcinoma (×40).

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Patient's perspective

Sacrifice of one's own organ due to cancer is traumatizing, but being aware of benefits of surgery, correct diagnosis and a structured treatment is what brings quality of life back.

Learning points

- ▶ Solid papillary carcinoma can have other coexisting invasive carcinoma like lobular and no special type.
- ▶ Treatment modality and the prognosis of these solid papillary carcinoma vary and thus must be determined based on the other invasive components.
- ▶ The specimen should be grossed thoroughly and individual component should be identified with the help of immunohistochemistry.

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