Ultrasonographic diagnosis of rare primary cervical cancer and common cervical cancer

jiaoling li[1], Congmin Gu[2], Haiqing Zheng[2], xiaofang liu[1], xiuping geng[1], and Haiying Wu[2]

[1]Affiliation not available
[2]Guangzhou Women and Children's Medical Center, Guangzhou Medical University

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Abstract

OBJECTIVES: To summarize ultrasonographic features of rare primary and common cervical cancer and the association of these cancers with HPV infection so as to diagnose rare primary cervical cancer. METHODS: Sixty-five cases with cervical cancer suspected by ultrasonography and three cases with clinical symptoms treated at our department underwent cervical biopsy. Sixty-four diagnosed cases were retrospectively analyzed and divided into common-type (CTCC) and rare-type (RTCC) cervical cancers. RESULTS: Sixty-one cases were diagnosed, four misdiagnosed, three missed the diagnosis by ultrasonography, the sensitivity of which was 95.31% (61/64). The common-type cervical cancer had 43 cases of squamous cell carcinoma. The rare-type cervical cancer had 15 cases of adenocarcinoma, four of small-cell carcinoma, and two of adenosquamous carcinoma. The demographic characteristics of the two groups were not significantly different ($P > 0.2$). The tumor size in RTCC were smaller than those in CTCC ($P < 0.05$). Hypoechoic lesions in CTCC and isoechoic lesions in RTCC composed 74.42% (32/43) and 61.90% (13/21), respectively ($P < 0.001$). Exophytic in CTCC and endophytic in RTCC composed 67.44% (29/43) and 66.67% (14/21), respectively ($P = 0.01$). HPV infection composed 83.72% (36/43) in CTCC and 47.62% (10/21) in RTCC, respectively ($P = 0.003$). Color Doppler blood signals were found in all cases, as compared with normal cervical tissue. The consistency between ultrasonography and pathology staging diagnosis of RTCC was good (Weighted kappa (95%CI) = 0.87). CONCLUSION: Ultrasonography can distinguish RTCC from CTCC. There is a very good consistency between ultrasonography and pathology staging diagnosis of RTCC.

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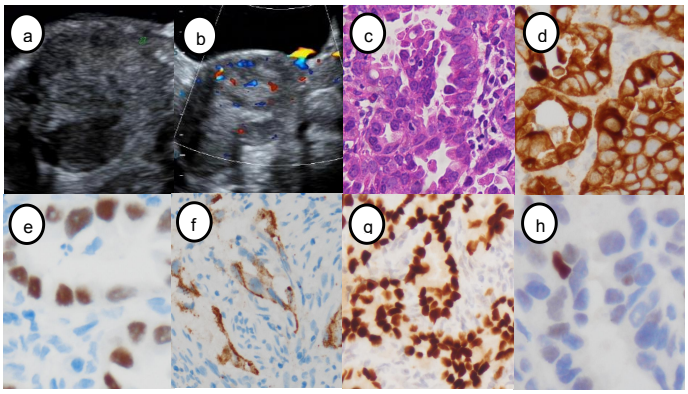

Figure 1 Ultrasonographic features and immunohistochemical staining of primary CCCC in an unmarried celibate woman. (a) Two-dimensional ultrasonography showing a hypoechoic cervical lesion. (b) Colour Doppler ultrasonography showing significant short rod blood flow signals in the lesion. (c) Pathological features of CCCC (HE, ×20). (d) CK7 was positive in CCCC (×20). (e) HNF was positive in CCCC (×20). (f) Napsin A was positive in CCCC (×20). (g) PAX was positive in CCCC (×10). (h) P53 was positive in CCCC (×20).

Abbreviations: CCCC, clear-cell carcinoma of the cervix; HE, haematoxylin and eosin; HNF, hepatocyte nuclear factor

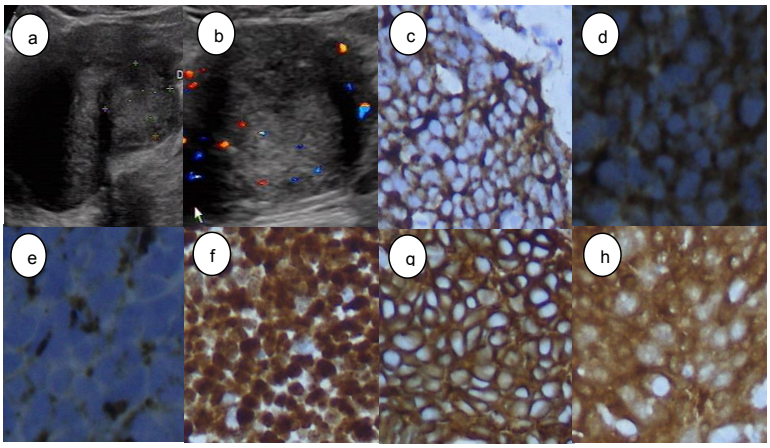

Figure 2 Ultrasonographic features and immunohistochemical staining of primary SCCC in a sexually active married woman. (a) Two-dimensional ultrasonography showing an isoechoic cervical lesion. (b) Colour Doppler ultrasonography showing significant strip blood flow signals in the lesion. (c) Syn was positive in SCCC (×20). (d) NSE was positive in SCCC (×40). (e) CGA was positive in SCCC (×40). (f) Ki-67 was positive in SCCC (×20). (g) CEA was positive in SCCC (×20). (h) P16 was positive in SCCC (×20).

Abbreviations: SCCC, small-cell carcinoma of the cervix; NSE, neuron-specific enolase; CGA, chromogranin A; CEA, carcinoembryonic antigen; Syn, synaptophysin