An isolated metastasis to the heart from a malignant phyllodes tumor with osteosarcomatous differentiation

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SOUHRN

A 74-year-old woman was admitted in a serious condition due to the failing right heart. A CT scan revealed a tumor infiltration through the interventricular septum in the right heart, spreading from the apex as far as under the tricuspid valve. The tumor penetrated into the conus of the pulmonary artery, bulging and markedly narrowing the lumen. As a result of the tumor infiltration, the patient died from cardiac failure.
Histological examination of the tumor revealed atypical elongated cells and areas of large cells with significantly enlarged hyperchromatic and lobulated nuclei. In some portions, the tumors had a biphasic appearance. The tumor cells resembled epithelial tissue but immunohistological analyses to detect cytokeratins yielded negative results. The elongated cells expressed desmin and smooth muscle actin. A vast majority of the tumor was solid or hard, histologically corresponding to osteosarcoma. Later, it was found that the patient undergone right-sided mastectomy for a malignant phyllodes tumor with osteosarcomatous differentiation three years previously. The metastasis to the heart was the only metastasis detected by the autopsy.

Keywords: malignant phyllodes tumor with osteosarcomatous differentiation - metastasis to heart - cardiac failure

Izolovaná metastáza do srdce z maligního fyloidního nádoru s osteosarkomatózní diferenciací

SUMMARY

74-letá žena byla přijata v těžkém stavu pro selhávající pravé srdce. CT vyšetření ukázalo tumor, který infiltrativně prorůstal mezikomorovým septem v pravé části srdce a šířil se od hrotu srdečního až pod trojcípou chlopeň. Nádor pronikal do konusu a. pulmonalis, kde se polokulovitě vyklenoval a výrazně zužoval lumen. V důsledku nádorové infiltrace pacientka zemřela na selhání srdeční.
Histologicky nádor tvořily atypické protáhlé buňky někde s velkými buňkami, které měly výrazně zvěšená hyperchromní a laločnatá jádra. V některých úsecích měl nádor bifazický vzhled. Nádorové buňky připomínaly epitel, ale imunohistologická vyšetření na průkaz cytokeratinů byla negativní. Protáhlé buňky exprimovaly desmin a hladkosvalový aktin. Převážná část nádoru byla tuhé až tvrdé konzistence a histologicky odpovídala osteosarkomu. Dodatečně bylo zjištěno, že u pacientky byla před třemi roky provedena pravostranná mastektomie pro maligní fyloidní nádor s osteosarkomatózní diferenciací. Metastáza do srdce byla jedinou metastázou zjištěnou při pitvě.

Klíčová slova: maligní fyloidní nádor s osteosarkomatózní diferenciací - metastáza do srdce - selhání srdce

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Malignant phyllodes tumors (PTs) account for approximately 20 % of all PTs. They are also responsible for local recurrences (1-3). Approximately one-fifth of them metastasize but a lethal course is rare (2,3). Most frequently, hematogenous metastases to the lungs, soft tissues, bones and pleura are observed. Spread to the heart is rare and isolated metastases may mimic primary tumors of the heart (4,5). Occasionally, tumors exhibit heterologous elements, for instance, liposarcomatous, fibrosarcomatous, osteosarcomatous, chondrosarcomatous and rhabdomyosarcomatous (6). In such cases, the original biphasic features disappear and the tumors are sarcomatous.

We present a case of a patient who developed a tumor in the right heart three years after right-sided mastectomy. The tumor led to stenosis in the area of the tricuspid valve and conus arteriosus and, subsequently, to cardiac failure.

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MATERIAL AND METHODS

Tissue samples from autopsy and mastectomy three years previously were fixed in 10 % formalin and processed by the paraffin technique. Then the tissues were stained with hematoxylin and eosin; immunohistochemical staining was performed with the avidin-biotin complex (ABC) method. The antibodies including clone numbers, working dilutions and results are shown in Table 1.

CASE REPORT

A 74-year-old woman was admitted due to progressive dyspnoea over several months and chest tightness. The examination revealed a tumor in the right ventricle causing stenosis in the tricuspid valve region and cardiac failure. When endomyocardial