

Letter to the Editor

Sudden cessation of respiration in a patient with a solitary metastatic focus of renal cell carcinoma in medulla oblongata

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Introduction

Renal cell carcinoma (RCC) is a highly malignant tumor arising from renal parenchyma. It has a poor prognosis and metastasizes to almost all organ systems mainly to bones and lung and it may involve cerebrum and spinal cord lately in its course [1]. Case series in the literature show that locations of brain metastasis of RCC are generally distributed evenly with no predilection. Although multiple metastatic foci of RCC in the cerebrum are encountered during the course of the disease, solitary metastasis in brain is a very rare occurrence [2].

Clinical course

We report a 67-year-old male patient diagnosed with RCC in his left kidney and an isolated, single metastatic focus in the medulla oblongata meanwhile (Figure 1). He was presented with hemiparesia in his left-side and 7th, 8th, 9th, and 10th cranial nerve involvement in his right-side. On admission, he was co-operated and oriented to time, person, and place without any impairment in his respiratory pattern and rate. However, he developed difficulty in respiration and cyanosis as early as 4 h following his hospitalization. He was intubated orotracheally and transferred to intensive care unit and bound to mechanical ventilator. Cranial computed scan revealed

no hemorrhage or increase in edema in the tumor vicinity. The patient is scheduled for radiotherapy.

Discussion

In the literature we revised, there are studies reporting cases with solitary metastatic foci involving brain stem arising from various tumors including lung, breast, prostate, and hepatocellular carcinoma [3,4,5,6]. However, to the best of our knowledge, no single metastatic site in brain stem, taking origin from RCC was reported. Rhodes [7] et al. reported respiratory arrest in a patient with brain and bone metastasis possibly from an adenocarcinoma since no primary tumor was identified in post-mortem study. In this above-mentioned patient, anatomic study revealed a small tumor focus in the nucleus of tractus solitarius in medulla oblongata. However, our report is the first study announcing a solitary metastatic site in medulla oblongata, disseminated from a histopathologically confirmed primary RCC source, which causes sudden cessation of respiration. Sudden arrest of respiration in these patients may lead to death if urgent intubation and ventilation is not instituted. We conclude that brain stem metastasis in patients with RCC should be examined thoroughly, and special attention should be paid to those patients who harbor metastatic foci in the lower brain stem.

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Figure 1. T-1 weighted axial MR image, showing a tumoral metastatic focus stained with contrast homogeneously in medulla oblongata.