Parkinsonism in a Recurrent Cervical Cancer Patient: Case Report and Review of the Literature

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Abstract

A 49 year old woman diagnosed as a cervical cancer patient, after receiving appropriate treatment experienced metastasis in her abdominopelvic cavity. After aggressive management, she was well for a while. However, she developed to a poor condition consisting of urologic, gastroenterological, hematologic and neurologic problems just in a short time. In the course of hospital she presented one sided passive bradykinesia, resting tremor, cogwheel rigidity with controlateral suspicious CT scan of brain. She passed away soon after that.

Keywords: Cervical cancer, Metastasis, Parkinsonism

Introduction

Cervical cancer is believed to be a cancer with low metastatic potential <10%. Even in the case of metastasis, its most probable sites are retroperitoneal lymph nodes.(1) If hematogenous spread occurs its metastatis sites are mostly bone, lung and liver. (1,2) Metastasis to brain is a very rare phenomenon in this disease, incidence in different studies has been reported as : 0.5-1.2% (1), 0.52% (2), 0.77% (3), 4% (4), 0.8-5% (5), 0.005% (6), 0.5% (7) and 0.4% (8). This is while some studies suggest that rate of brain metastasis are much more than these, acclaiming that some metastases are asymptomatic. Autopsies from cadavers with cervical cancer have revealed numbers of 3-5 % (6) and 0.8-15%.(7)

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Case

A 49 year old woman, after having heavy abnormal uterine bleeding for 3 months asked for medical care. She underwent Dilatation and courtage and pathology studies resulted in invasive squamous cell carcinoma of cervix. It was staged as IIb/IIIa in FIGO staging, (Jul 07). Cystoscopy, rectosigmoidoscopy & ultrasound of abdominopelvic organs were normal on that time. She received 28 courses of external radiotherapy, brachytherapy and also chemotherapy: 5-FU (ADRUCIL, Teva Parenteral Medicines, California) and Cisplatin (PLATIONCO, Chandra Bhagat Pharma, India). About 8 months after the initial diagnosis, Total abdominal hysterectomy and bilateral salpingo oopherectomy were done for her, with pathology results of poorly differentiated SCC of cervix, measuring about 2.5*2.5 cm with full invasion to exo and endocervix, no lymphatic or vascular involvement was reported. Ovarian tubes, ovaries, myometrium & endometrium all were also free of tumor. Brachytherapy was started for her, (Apr 08). After 7 months being symptom free, she developed with suprapubic pain. Abdominopelvic

ultrasound studies revealed a hypoechoic mass 6.4*5.2 cm in right posterior of urinary bladder and lateral part of the upper vaginal stump, and moderate hydronephrosis in right kidney. MRI & spiral CT scan approved the existence of a recurrent mass with irregular border & central necrosis. A few small metastatic para aortic lymph nodes below the level of renal arteries were also reported. Previous imaging studies had never revealed metastasis in abdomen & pelvis. She was diagnosed as recurrent cervical cancer case, (Nov 08). A tumoral mass 7*8 cm on vaginal stump with invasion to rectum and sigmoid colon and posterior wall of abdomen and around ureter was removed, Double J stent was inserted, posterior side of bladder was shaved from tumor and permanent colostomy was inserted. Pathology confirmed metastasis of SCC to the rectosigmoid colon with involvement of mucosa, muscularis propria & submocusa, (Dec 08). She was relatively well for 7 months which suddenly developed with dribbling & dysuria, (July 09). Severe hydronephrosis & uremia led to the diagnosis of obstructive uropathy. Double J stent & double lumen were inserted. One episode of hemodialysis was done. No sign of metastasis to liver, spleen and kidneys was shown in sonography. She rejected further medical care and released from hospital. In two weeks she came back with decrease in level of consciousness, fever, coffee ground GI bleeding and thrombocytopenia (35000). Sonography revealed severe bilateral hydronephrosis and right pleural effusion. Chest X-ray showed hyperinflation in lungs with diffuse irregular infiltrations with no suspicious lesions in lung, ribs and vertebrae. She was unconscious, not oriented to time, place, person, but had open and blinking eyes. She had no muscle power, no deep tendon reflex and no plantar reflex on her left side. In right, her muscle power was estimated to be 2 out of 5, positive deep tendon reflex and upright plantar reflex were reported. She had noticeable resting tremor, rigidity, significant cog wheeling and bradykinesia in passive movements of her right upper extremity. Meanwhile, gross hematuria and melena happened for her. Due to her renal failure, use of contrast was impossible, so CT scan without contrast was done, reporting a faint hypodensity point in right frontal lobe with extension to the high convexity and another one in the genu of internal capsule in the right side. Dilatation of ventricles and sulci due to atrophic changes were also reported. The patient expired in the following week, 24 months after the initial diagnosis, 7 months after the diagnosis of recurrence and a few days after presenting Parkinsonism. Her family declined autopsy. The data of this patient is kept in the folder numbered 1077654-223932 in Dr.Faghihi hospital of Shiraz. Unfortunately the CT scan was lost by her family.

Discussion

Previously it was believed that brain metastasis is a phenomenon related to the stage of cervical cancer, but newer studies show that tumors behavior cannot be predicted by their histology or staging, so brain metastasis can occur any time (7). The route of diagnosis is mostly by imaging or by clinic (4, 6). Usually these patients are in their forties (2, 3, 7). Stages are usually IB-IIB (2, 3). The symptoms usually include headache, nausea, vomiting, increased intracranial pressure related symptoms, hemiphagia, hemiparesis and mental status change (2, 5, 7). The involved areas are mostly reported to be parietal, temporal, and frontal lobes (2, 4, 5). The interval between the diagnosis of the cervical cancer and brain metastasis has been reported to be from 7- 49 months (2, 6- 11). Survivals after diagnosis of brain metastasis are around 2-10 months (2, 5, 8, 9, 11). At last brain metastatic cervical cancer is believed to be an incurable disease with poor prognosis and short survival (7). Parkinsonism secondary to malignancy is very rare. It was first reported by Blocq in 1893 in a subject suffering from tuberculosis of the brain. From that day about 90 reports of parkinsonism due to brain metastasis have been reported (12). We cannot completely exclude coincident Parkison's disease in this patient due to the lack of confirmation by autopsy or magnetic resonance imaging. However, coincidence of sudden onset of progressive neurologic symptoms and this kind of highly invasive cervical cancer in this patient are rigorously suggestive of metastatic induced Parkinsonism. We know it highly unlikely which this woman was experiencing early stages of Parkinson's disease. This rare clinical condition, Parkinsonism in a recurrent cervical cancer, made us interested in reporting this case as a considerable study. While regarding the incidence of brain metastases of cervical cacner patients' autopsies mentioned above, maybe it is about time we changed our considerations toward this prevalent cancer behavior more precisely. Cervical cancer is a more common disease in the developing countries compared to the developed ones. The

incidence of this cancer has been estimated to be 4.8 per 100000 in Middle East, it is also considered as the second most common life-threatening cancer (13). So it is on us to get a better knowledge of this disease. This study, apart from the lack of its image documentation, helps us get more familiar with this disease behaviour.

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