

Metastasectomy in Solitary Abdominal wall Metastases of Papillary Renal Cell Carcinoma.

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Abstract: Renal cell carcinoma is a serious and life threatening disease. Incidental detection of RCC is more often due to wide spread use of abdominal imaging. A decade ago, patients with metastatic RCC had very dismal prognosis. Now with aggressive surgery of complete resection of isolated metastases in favourable subgroups of patients of papillary RCC, 5 year survival of 30-50% has been shown, so metastasectomy is well worth considering, if all of it can be removed.

Keywords: Metastasectomy, metastatic renal cancer, Papillary Renal cell carcinoma, Abdominal wall metastasis.

I. Introduction

Renal cell carcinoma is a serious and life threatening disease. It accounts for about 2% -3% of all adult malignancies, representing the seventh most common cancer in men and the ninth most common cancer in women [1]. Approximately 30-40% patients with malignant renal cortical tumors will either present with or later develops metastatic disease [2]. Patients with metastatic RCC (mRCC) had dismal prognosis. However, now senario has changed due to recent advancement in the field of medical management of mRCC, although research in terms of role and timing of cytoreductive nephrectomy as well as expertise in minimally invasive surgery is still in vogue. Metastasectomy is traditionally being executed depending on factors like- the sites and number of metastases, resectability , surgeon's expertise, patient compliance and his general condition [3].

We present our case of localized solitary anterior abdominal wall metastases of papillary carcinoma kidney, where Radical Nephrectomy was done 2 year before. We did metastasectomy with enblock resection of anterior abdominal wall with good clinical outcome.

II. case report

A 62 year male presented with small symptomless swelling of about plum size, under the scar of previous operation on anterior abdominal wall, following one year of undergoing Right Radical Nephrectomy for Renal mass (RCC). Swelling was gradually progressing and almost reached the size of orange (10cm x 10cm) within a period of one year. FNAC was done which revealed evidences of RCC. However, there were no symptoms, and clinical examination was close to normal except swelling under previous scar site (Illustration No.1) In view of solitary abdominal wall metastases, diagnostic laparoscopy was done which confirmed the metastases to be localized to anterior abdominal wall. Hence, metastasectomy was done with enblock resection of anterior abdominal wall (Illustration No. 2). The defect in abdominal wall was repaired with prolene mesh (Illustration No, 3). Patient had good, uneventful postoperative recovery. Histopathology report confirmed our diagnosis of metastatic papillary renal cell carcinoma. Patient was asymptomatic and disease free, when last seen at 9 months follow up.

III. Discussion

Renal cell carcinoma account for almost 90% to 95% of malignant neoplasms and have been synonymously called "the internists tumor" and are among the great mimics in medicine as they present with systemic symptoms unrelated to the kidney cancer, such as hypertension, hypercalcemia, polycythemia, eosinophilia, leukemoid reactions, Cushing's syndrome , fever or wasting syndromes, and Stauffer's syndrome. Most cases of RCC are incidentally diagnosed on radiographs being done for other reasons. The classic triad of hematuria, abdominal pain and a palpable mass is present in < 10% of cases [4]. The initial workup consists of taking a detailed medical history and performing a physical examination. Appropriate laboratory investigations include a complete blood cell count, a comprehensive metabolic panel (including evaluation of serum calcium level, liver function, and lactate dehydrogenase and serum creatinine levels), a coagulation profile and urinalysis. Imaging studies should include computed tomography scans of the abdomen and chest radiograph. Abdominal and magnetic resonance imaging (MRI) is used to evaluate tumor extension into the inferior vena cava. MRI can be used instead of CT when contrast media cannot be administered due to allergy or renal

insufficiency . A bone scan or brain imaging is not routinely performed unless signs or symptoms suggest involvement of these areas . PET is not used to diagnose or follow up kidney cancer in any circumstance (5). Needle biopsy is not routinely used to establish diagnosis in patients with large renal masses and radiologic characteristics of malignancy. These patients often undergo immediate Kidney removal, which is both diagnostic and therapeutic.

Pathology – Papillary RCC is diagnosed based on the growth pattern of the cells in the tumor along with various other technical criteria. Papillary RCC actually has two sub types, type I and type II .This distinction is relatively recent (6). Type I (Basophilic) is on average diagnosed at a lower stage, and lower grade than type II (Eosinophilic) and has a better prognosis .However , type II metastasizes much more commonly than type I (7).

Treatment & outcome- Partial nephrectomy for small tumors measuring upto 7cm (T₁) and radical nephrectomy for large tumors (>7cm, T₂) considered gold standard for treatment of organ confined RCC, can be performed via open or laparoscopic approach. For locally advanced RCC (T3 and T4); open radical nephrectomy remains the standard of care even though laparoscopic approach can be considered.

Systemic adrenalectomy or extensive lymph node dissection is not recommended when abdominal CT shows no evidence of adrenal or Lymph node invasion. Neo-adjuvant approaches are still experimental, especially for resectable tumors, and should not be routinely proposed outside of clinical trials.

For advanced disease the Memorial Sloane Kettering cancer centre (MSKCC) score has now been validated and updated for use in the current era of targeted therapies as the Heng or international Metastatic RCC database Consortium (IMDC) criteria (8). Patients are stratified according to the presence of six risk factors. The number of risk factors present is added up and the risk is stratified accordingly.

Median patient survival for patients with metastasis is about 10-12 Months. Patients with metastatic disease have an 18% chance of surviving 2 Years (9) However, subsets of patients with advanced disease have shown improved survival. The following factors predict the risk of metastasis following radical nephrectomy for clinically localized RCC ie: size and stage of primary tumor, extent of regional lymph node involvement, if any, tumor histology, presence or absence of necrosis, and presence or absence of vascular invasion.

The Role of Metastasectomy in mRCC- The patient with mRCC usually have a dismal prognosis. However with the introduction of TMT the outlook has dramatically changed . Favourable subgroups include solitary metastases and DFI to metastases of > 1year . Complete resection of isolated metastases was associated with 5 year survival rates of between 35 and 60% . Findings from Mayo clinic Memorial Sloan Kettering cancer center(MSKCC), and from Martin Luther university showed a 5 year survival of 30-50% following metastasectomy. Interestingly, even when the likelihood of complete resection was low, metastasectomy still maintained its beneficial effect.(10).

Since papillary RCC in often relatively slow growing, aggressive surgery to remove metastatic disease is well worth considering, if all of it can be removed.

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Illustration 1: preoperative clinical photograph showing anterior abdominal wall swelling under previous surgery scar



Illustration no2 : showing en-block resection of metastases with anterior abdominal wall



Illustration no3 : showing repair of deficient anterior abdominal wall with prolene mesh



Illustration no4 : showing resected specimen