Renal cell carcinoma

Subtypes

There are several subtypes of RCC, including clear cell carcinoma, papillary carcinoma, chromophobe carcinoma, and collecting duct carcinoma. Clear cell carcinoma is the most common subtype, accounting for approximately 70-80% of RCC cases.

Risk Factors

Risk factors for kidney cancer include smoking, obesity, hypertension, certain genetic conditions (such as von Hippel-Lindau disease), and exposure to certain chemicals or medications.

Symptoms: In the early stages, kidney cancer may not cause any symptoms. As the tumor grows, symptoms may include blood in the urine (hematuria), lower back pain or flank pain, a lump in the abdomen, unexplained weight loss, fatigue, and fever.

Diagnosis

Diagnosis of kidney cancer typically involves imaging tests such as CT scans, MRIs, or ultrasounds to visualize the kidneys and detect any abnormalities. A biopsy may also be performed to confirm the diagnosis by examining a sample of tissue under a microscope.

Treatment

Treatment options for kidney cancer may include surgery to remove the tumor (partial or radical nephrectomy), targeted therapy, immunotherapy, radiation therapy, and in some cases, chemotherapy. The choice of treatment depends on factors such as the stage of the cancer, the patient's overall health, and the presence of any metastases.

Therapeutic advancements based on immuno-oncology combinations have revolutionized the management of patients with renal cell carcinoma. However, patients who have progressive disease as the best response, “primary refractory” (Pref), face dismal outcomes.

A multicenter retrospective real-world study aims to assess the prevalence and clinicopathological characteristics of Pref patients.

This study collected data from 72 centers across 22 countries (1709 patients), involving patients aged ≥18 years with metastatic clear cell renal cell carcinoma. All patients were treated with first-line immune-oncology combinations. Data included patient demographics, histology, metastatic sites, and treatment responses. Radiological assessments followed Response Evaluation Criteria in Solid Tumors

version 1.1. Statistical analyses employed the Kaplan-Meier method, Cox proportional hazard models, logistic regression, and the receiver operating characteristic curve.

The Pref rate was 19%. Nivolumab/ipilimumab showed the highest Pref rate (27%), while pembrolizumab/lenvatinib exhibited the lowest (10%). Primary refractory patients demonstrated significantly lower median overall survival (7.6 months) compared with non-Pref patients (55.7 months), $p < 0.001$. At the multivariate analysis, nephrectomy, sarcomatoid de-differentiation, intermediate/poor International Metastatic RCC Database Consortium risk, and bone and brain metastases emerged as significant predictors of overall survival for Pref patients with renal cell carcinoma. Logistic regression showed a significant relationship between liver metastases, intermediate/poor International Metastatic RCC Database Consortium risk, no surgery, and an increased risk of Pref. This study presents limitations, mainly because of its retrospective design.

The ARON-1 study provides valuable insights into Pref patients, emphasizing the challenges of this precociously resistant subgroup. Identified predictors could guide risk stratification, aiding clinicians in tailored therapeutic approaches [1)].

Prognosis

The prognosis for kidney cancer depends on various factors, including the stage of the cancer at diagnosis, the subtype of RCC, the patient's age and overall health, and the response to treatment. Early detection and treatment can improve outcomes.

Complications

see Brain metastases from renal cell carcinoma.

Spinal metastasis from renal cell carcinoma

Renal cell carcinoma (RCC) frequently metastasizes to the spine, and the prognosis can be quite variable.

Treatment

Surgical removal of the tumor with spinal reconstruction has been a mainstay of palliative treatment.

Prognosis

The ability to predict prognosis is valuable when determining the role and magnitude of surgical intervention in cancer patients.

Tatsui et al., identified several factors influencing survival after spine surgery for metastatic spinal RCC, including grade of the original nephrectomy specimen, activity of the systemic disease, and neurological status at the time of surgery. These clinical features may help to identify patients who

may benefit from aggressive surgical intervention [2].

Spinal nerve root metastasis

Spinal nerve root metastasis of renal cell carcinoma is a rare occurrence. In addition to treatment of the primary lesion, surgical resection of the nerve root metastasis, occasionally with sacrifice of the involved nerve, is the accepted standard of treatment. Resection often resolves presenting motor and pain symptoms due to relief of neural compression.

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2)
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