CASE PRESENTATION

Renal Cell Carcinoma Masquerading as Multiple Myeloma

Santalal Jain, MD*
Abdulrahman Dawood, FRCS**

Renal Cell Carcinoma is known to present with a wide range of clinical features suggestive of other illnesses. This makes diagnosis difficult. Here we report a case who presented with clinical features of multiple myeloma.

THE CASE

A seventy five year old bedouin woman presented with generalised bone pain, weakness and fatigability of one year duration. She was mildly obese and anaemic. The liver was just palpable. Laboratory results were as follows: Haemoglobin 8.8g/dl with low mean red cell volume (MCV 78.2 fl) and mean cell haemoglobin (MCH 25.8pg), Erythrocyte sedimentation rate (ESR) 102mm in 1 hour, low serum iron (2.3µmol/1) and low trasferrin level (1.08 g/l), total serum protein 72 g/l, albumin 25 g/l, serum calcium 2.41µmol/l and phosphorus 1.28 mmol/l, urea 3.6 mmol/l and serum creatinine 117/µmol/l. Serum protein electrophoresis (SPE) and Immunofixation electrophoresis (IFE) showed a monoclonal band (M-protein) of lgG, light chain type (See figure). Serum lgG level was raised to 31.1 g/l (measured by Nephelometer) with reduction in lgM level (0.25 g/l). Total urinary protein was 0.308 g/l and IFE of concentrated urine (X100) revealed a faint monoclonal band due to light chain (Bence Jones protein).

Radiographic bone survey showed generalised osteoporosis with no lytic lesions. Bone marrow aspiration and trephine biopsy showed increase in iron store with inappropriate erythropoietic response to the degree of anaemia. Plasma cells constituted only four percent of all nucleated bone marrow cells. No aggregate of plasma cell was noticed. Ultrasonography and computerised axial tomography revealed a right sided kidney mass. The tumour was resected and on histologic examination proved to be renal cell carcinoma.

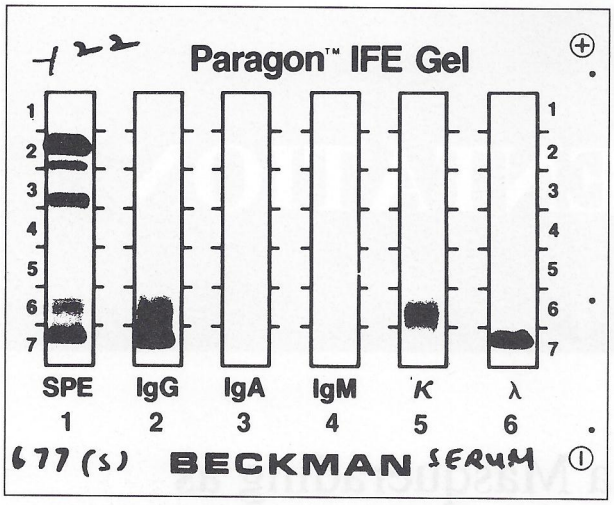
DISCUSSION

The presence of bone pain, anaemia, fatigue, monoclonal gammopathy, Bence Jones proteinuria, high ESR, generalised osteoporosis and low serum albumin in this

* Consultant Haematologist
Department of Laboratory Medicine

**Consultant Urologist
Department of Surgery

Al-Jahra Hospital
Kuwait



Number 1: *Serum protein electrophoresis (SPE) demonstrating monoclonal protein in gamma region.*

Number 2 & 6: *Immunofixation electrophoresis (IFE)demonstrate that the monoclonal protein is of IgG, light chain.*

elderly lady were highly suggestive of multiple myeloma (MM). The diagnosis of MM was excluded primarily due to normal number of plasma cells in the bone marrow and some other features like absence of osteolytic lesions and not sufficiently high level of monoclonal protein. On the other hand the patient did not have any of the classic triad of renal cell carcinoma ie haematuria, pain and palpable abdominal mass. The type of anaemia present in this case was typical of carcinomas and chronic inflammatory disorders. The most common haematologic abnormalities reported in large series of renal cell carcinomas are anaemia of hypoproliferative type and high ESR[1,2]. These are the two main findings in our case which could be attributed to renal cell carcinoma.

Striking feature in our case was the presence of a monoclonal band of IgG in the serum 31.1 g/l and accompanied by mild Bence Jones proteinuria. Monoclonal gammopathy in serum and/or urine is almost a sine qua non for diagnosis of multiple myeloma, macroglobulinemia and related disorders. However M-protein can also be detected in otherwise apparently healthy people and its incidence can increase upto three percent in the age group of seventy years and older[3,4]. The amount of monoclonal protein in such cases is less than 30 g/l and only occasionally accompanied by a small amount of monoclonal light chain in the urine (Bence Jones proteinuria)[5].

In our case the M-protein appears to be a co-incidence as the level of IgG was not very high and the amount remained stable even after resection of the tumour although the patient was followed up for a short period only. Skinner, et al did not report a single case of monoclonal gammopathy in their series of 309 cases of renal cell carcinoma[1]. Possibly they did not look for it specifically in all their cases. On the other hand Kyle and Lust found a case of renal cell carcinoma in their series of two hundred and forty one cases of monoclonal gammopathies of undetermined significance (MGUS)[6]. These 241 were excluding cases of MM, macroglobulinemia, amyloidosis, lymphoma and related diseases. This reported case of renal cell carcinoma along with monoclonal gammopathy had also significant anaemia (haemoglobulin < 10g/dl) and hypoalbulinemia (< 20g/l) like our present case. No proper study to find association between monoclonal gammopathy and renal cell carcinoma has been reported so far. However, Isobe and Osserman have reported that patients with serum M-protein have incidence of other carcinomas, such as adeno-carcinoma of the rectosigmoid, prostate, lung and gall-bladder, twice that found in a random series of patients lacking the monoclonal gammopathy. The generalised osteoporosis in this patient was of the type seen in elderly people.

This case of renal cell carcinoma clearly illustrates the varied clinical and laboratory features with which it can be associated and the diagnosis in such cases can be missed unless one is very suspicious of it.

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