The presentation, treatment and outcome of renal cell carcinoma in old age

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Abstract

Objective: to review clinical presentation and outcome of patients with a diagnosis of renal cell carcinoma at a district general hospital and assess whether older patients were more likely to present in a non-specific manner or receive more conservative management and whether their survival was less favourable.

Subjects and methods: 39 patients presenting with a diagnosis of renal cell carcinoma between 1987 and 1995 were identified from hospital activity analysis data and histopathology records. We divided the subjects into young patients (<69 years: n = 27) and elderly patients (>70 years: n = 10), and made a retrospective analysis of clinical features, laboratory results, pathology, staging, treatment and survival from hospital records.

Results: anaemia, hypertension and weight loss were common clinical features in both young and elderly groups. The prevalence of non-urological symptoms did not differ between study groups. Anaemia was frequently microcytic and hypochromic. Hypertension was present in 46% of patients and one-third of these were newly diagnosed. In 19% of patients with renal cell carcinoma, the diagnosis was made incidentally while imaging for other indications. Elderly patients were as likely to receive surgical treatment as younger patients. Survival differed with stage but not age.

Conclusions: neither clinical presentation, management nor survival differed between the young and elderly subjects. Renal cell carcinoma should be considered in elderly patients with systemic features such as malaise or weight loss associated with anaemia, hypertension and raised erythrocyte sedimentation rate.

Keywords: age, erythrocyte sedimentation rate, clinical presentation, renal cell carcinoma

Introduction

Renal cell carcinoma is a tumour derived from renal tubular epithelium [1] and accounts for 3% of all malignancies [2, 3], with a peak incidence in the seventh decade [4]. As a retroperitoneal tumour, it can become large before clinical detection [5], and many present in a non-specific manner which may lead to diagnosis by physicians and geriatricians [6, 7]. In elderly patients, many carcinomas present insidiously often against a background of co-existing disease and are often not diagnosed until the disease is advanced [8]. The aims of the present study were to identify whether renal cell carcinoma presents in a more non-specific manner in elderly subjects, to establish the clinical features in this age group, to determine whether elderly patients receive more conservative treatment than younger patients and to look for evidence of age on survival.

Subjects and methods

All new cases presenting with renal cell carcinoma to Gateshead hospitals between 1987 and 1995 were identified from hospital activity data and histopathology records. The case notes of 39 patients were reviewed retrospectively to identify presenting clinical features, laboratory data, details of cell morphology, clinico-pathological staging, patient management and survival.

Assessment of staging was carried out using the criteria described by Robson et al. [9]. To identify differences in symptomatology, laboratory features, stage and survival with advancing age, the study group was divided in to two groups of ‘young’ subjects (defined as aged 69 years or under) and ‘elderly’ subjects (aged 70 years or over). Statistical analysis was performed using the Mann–Whitney U test for comparisons of clinical data and a χ² analysis for comparisons of staging data.

Results

Thirty-nine patients presenting with a histologically-proven diagnosis of renal cell carcinoma were identified.
Inadequate clinical information was available for two subjects, leaving 37 patients to be included in the study.

**Characteristics of the study subjects**

The mean age of the study group was 64.5 years (range 39–92); 25 were male. Seventeen tumours involved the right kidney, 17 the left kidney; the remaining three patients had bilateral tumours. Sixty percent of patients presented to surgical or urology departments and almost 40% of diagnoses were made in medical or geriatric departments, usually in outpatients. Seven tumours (19%) were diagnosed incidentally while imaging for other indications.

**Presenting clinical and laboratory features of the study groups**

Table 1 demonstrates the presenting symptoms in young and elderly subjects. Anorexia, weight loss and abdominal pain were common in both groups. Although haematuria was reported by half of the elderly subjects, there were no statistically significant differences in the prevalence of reported symptoms between the young and the elderly group. Mean symptom duration was 9.9 weeks (95% confidence interval 5.2–14.6) and did not differ significantly between groups. Hypertension was common in both study groups, being present overall in 46%, and identified for the first time in 16% of subjects. Anaemia occurred in 46% of all patients and was more common in elderly subjects, although this difference did not achieve statistical significance. In six of the 17 anaemic patients, the anaemia was of hypochromic, microcytic type; none of these patients had frank or microscopic haematuria. The mean value of the erythrocyte sedimentation rate (ESR), measured in 11 of the young group, was 63 mm/h (range 8–130); the mean value in the four elderly patients in whom it was measured was 78 mm/h (7–142). Only two of the young group had an ESR of < 30 mm/h and seven values were higher than 60 mm/h. Two of the elderly group had ESR values >100 mm/h. An abdominal mass was palpable in half the elderly subjects, but there were no statistically significant differences in examination findings and laboratory features between the two groups.

**Clinicopathological staging**

About half the patients in each group presented with early stage I disease, and although a higher proportion of elderly patients presented with advanced stage IV disease, this did not achieve statistical significance.

**Management**

Table 2 shows the treatment offered to young and elderly subjects presenting with renal cell carcinoma. Over 75% of patients were offered nephrectomy and five patients in the young group were given radiotherapy. Three patients of the 37 cases identified were diagnosed at post mortem examination so were not offered surgical treatment. There was no evidence that elderly patients were managed more conservatively than younger patients, although two elderly patients presenting with advanced disease did not receive surgery but were offered chemotherapy, with additional radiotherapy given to one of them.

**Survival data**

The 2-year survival probability for the whole group was 64%, but no differences in survival could be identified between young and elderly subjects who were well matched for stage at time of diagnosis. As expected, in the cohort as a whole survival was worse for stage IV disease (4 months) than stage I or II disease (4 years and 3 years respectively; *P* < 0.002) but there was no statistical correlation between survival and age.

**Discussion**

We found no evidence to support the hypothesis that elderly renal carcinoma patients might present in a less specific manner than their younger counterparts. Non-urological symptoms were as common in the young study groups as in elderly patients, and symptom occurrence was similar to what has been described in the literature. Hypertension was present in 46% of the study population and was more common in elderly patients, although this difference did not achieve statistical significance. Anaemia occurred in 46% of all patients and was more common in elderly subjects, although this difference did not achieve statistical significance.

### Table 1. Presenting symptoms of renal cell carcinoma in young and elderly subjects

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Young (n = 27)</th>
<th>Elderly (n = 10)</th>
</tr>
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<tbody>
<tr>
<td>Abdominal symptoms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight loss</td>
<td>11 (41%)</td>
<td>3 (30%)</td>
</tr>
<tr>
<td>Anorexia</td>
<td>6 (22%)</td>
<td>5 (50%)</td>
</tr>
<tr>
<td>Abdominal pain</td>
<td>6 (22%)</td>
<td>2 (20%)</td>
</tr>
<tr>
<td>Haematuria</td>
<td>5 (11%)</td>
<td>1 (10%)</td>
</tr>
<tr>
<td>Bone pain</td>
<td>1 (4%)</td>
<td>1 (10%)</td>
</tr>
<tr>
<td>Night sweats</td>
<td>2 (7%)</td>
<td>0</td>
</tr>
<tr>
<td>Respiratory symptoms</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

*Weight loss, abdominal pain, anorexia.

### Table 2. Management of 37 patients presenting with renal cell carcinoma

<table>
<thead>
<tr>
<th>Mode of treatment</th>
<th>No. (and %) by group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nephrectomy</td>
<td>Young (n = 27)</td>
</tr>
<tr>
<td>Renal artery embolization</td>
<td>25 (92%)</td>
</tr>
<tr>
<td>Chemotherapy</td>
<td>5 (20%)</td>
</tr>
<tr>
<td>Post mortem diagnosis</td>
<td>4 (16%)</td>
</tr>
<tr>
<td>Nephrectomy</td>
<td>Elderly (n = 10)</td>
</tr>
<tr>
<td>Renal artery embolization</td>
<td>1 (4%)</td>
</tr>
<tr>
<td>Chemotherapy</td>
<td>1 (11%)</td>
</tr>
<tr>
<td>Post mortem diagnosis</td>
<td>2 (22%)</td>
</tr>
</tbody>
</table>
Renal cell carcinoma often presents with malaise, anaemia, hypertension or raised ESR.

Key points

- Renal cell carcinoma often presents with malaise, weight loss and abdominal pain in patients of all ages. Anaemia, hypertension and raised erythrocyte sedimentation rate are common associated findings.
- The anaemia may be hypochromic and microcytic in the absence of haematuria.
- One in five patients are diagnosed incidentally during imaging for other indications.
- In this study, elderly subjects were as likely as younger patients to receive active surgical intervention.

Acknowledgements

The authors would like to thank R. Baker, I. Miller and B. S. Vadanan for allowing their patients to be included in this study, and C. Cox for typing the manuscript.

References


Received 20 March 1997; accepted in revised form 15 June 1998