BLADDER INVOLVEMENT IN PATIENTS WITH COLORECTAL CARCINOMA

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ABSTRACT

Twenty-seven patients underwent concomitant partial cystectomies out of a total of 542 patients with colorectal carcinoma operated on between October 1989 to December 1991. There were 19 males and 8 females with a median age of 63.7 years (range 44 - 80). The patients were followed up for a median of 40.2 months (range 27 - 75 months). Histological invasion into the bladder was found in only 26% of the tumours. Eighty-five percent of the patients with carcinomatous invasion had pre-operative urological symptoms whilst only 20% of those with inflammatory adhesions had urological symptoms. Four percent of the patient were Dukes' A, 50% Dukes' B, 42% Dukes' C and 4% Dukes' D. Twenty (74%) patients are alive without evidence of local or distant metastasis. One has local recurrence and another, distant metastasis. Five patients have died. The prognosis of patients with colorectal cancer and bladder involvement appears to be similar to those without bladder involvement provided clear margins are obtained.

Keywords: *colorectal carcinoma, urinary bladder*

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INTRODUCTION

En bloc resection of involved adjacent structures where possible offers the best chance for both local control and cure in patients with colorectal cancer. Long term survival of between 32% to 79% have been reported in the literature[1-6]. As the urinary bladder is the most common extracolonic organ involved[7], we set out to determine the accuracy of intra-operative assessment of these tumours and the prognosis of colorectal cancers with bladder involvement.

PATIENTS AND METHODS

Five hundred and forty-two patients were treated for colorectal cancer between October 1989 and December 1991 in the Department of Colorectal Surgery, Singapore General Hospital. The case records were retrieved from a custom designed colorectal cancer database. Twenty-seven patients with tumour attachment to the urinary bladder and who underwent en bloc partial cystectomy were studied.

The grade of surgeons, type of surgery, tumour stage, bladder histology, pre-operative urinary symptoms (frequency, haematuria, dysuria and urinary tract infection), the intra-operative staging of bladder involvement were analysed. Intra-operative assessment of bladder involvement was graded by the surgeon as definite cancer involvement, indeterminate or inflammatory adhesions only. The tumours were examined by a single pathologist and malignant involvement was defined only when there was histological evidence of carcinoma in the bladder.

All patients were followed-up at one month and then three monthly for two years and subsequently six monthly for two years and then yearly in the out-patient department. Local recurrence was defined as tumour at the site of previous surgery and this included regional lymph nodes. Distant metastasis was defined as tumour recurrence at a site distal from the site of initial surgery.

RESULTS

There were 19 males and eight females with a median age of 63.7 years (range 44-80). Together with the partial cystectomy, eight patients had a sigmoid colectomy, 10 had high anterior resections. Only seven patients had histological evidence of carcinomatous infiltration into the bladder. Twenty patients had inflammatory adhesions only. Nine of these had transmural bladder inflammatory infiltration and 11 had only bladder serosal inflammation.

Pre-operative urinary symptoms

Urological symptoms were present in nine of the 27 patients. Eighty-five percent (6 of 7) of the patients with malignant invasion had symptoms. Of the patients with inflammatory adhesions 20% (4 of 20) had urinary complaints.

Intra-operative assessment

A consultant surgeon was present in all the cases. Eight of the tumours were subjectively assessed by the surgeon to have invaded the bladder. Another eight were assessed to be due to inflammatory adhesions only. The surgeon was uncertain of the nature of the bladder involvement in the remaining ten patients.

Histological carcinomatous infiltration was found in only seven patients (26%)

Early post-operative complication

There were no anastomotic leak from either the colon or the bladder in this series of patients. One patient was re-catheterised after removal of his urinary catheter because of urinary retention. This was removed after two days and he recovered uneventfully.

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Staging of tumours

Bladder involvement was not considered to affect Dukes' staging provided clear histological margins were obtained. One patient had a Dukes' A tumour, 14 Dukes' B, 11 Dukes' C and one Dukes' D (Table I). This was compared with 552 patients with no invasion into adjacent organs treated in the department in the same period. There were 8, 26, 30 and 36 percent of Dukes' A, B, C and D respectively.

Table I - Dukes' staging of patients with colorectal carcinoma and en bloc resection of bladder.

Dukes' Stage	No	%
A	1	3.7
B	14	51.9
C	11	40.7
D	1	3.7
Total	27	100

Follow-up

The median follow-up was 40 months (range 27 - 75). There were no urinary complaints post-operative from any patients. At the last follow-up 74% (20 patients) were alive with no evidence of local or distant metastasis. Five patients had died. Three died of metastatic disease and two others from causes not related to their tumours. One patient who had involved margins at the time of initial surgery developed local recurrence despite a full course of radiotherapy to the pelvis. One other patient was alive with distant metastasis.

DISCUSSION

The adjacent organs are involved in 5% to 12% of colorectal cancers[8-11]. The organ most commonly involved in cancer of the colon or rectum is the urinary bladder[7]. En bloc resection of adjacent structures in this situation may give good loco-regional control for colorectal cancer[1,7,12] and offers the best chance for cure. An important factor in the success of surgery is the achievement of tumour free margins[13,14]. Palliative diversion or incomplete resection results in a mean survival of 8.9 and 12.4 months respectively[15].

It is very difficult to distinguish between malignant infiltration and inflammatory adhesion during surgery if frozen sections are not performed. Lysis of adherent adjacent organs, whether neoplastic or inflammatory, should not be done as tumour spillage and recurrence occurs almost invariably unless en bloc resection is done[5,8,11,16-19]. In addition, five-year survival is markedly decreased by dissecting through tumour[20-22]. It is impossible to differentiate clinically if the adherence is inflammatory or neoplastic.

Neoplastic invasion to the bladder occurred in 26% in this series. This is lower than the 45% - 70% reported in other series[1-5] because advanced cases which were not resected were not included in our series.

The majority (85%) of patients with carcinomatous infiltrate compared with 20% of patients with inflammatory adhesions into the bladder had urological symptoms. Pre-operative genito-urinary symptoms appeared to be predictive of malignant bladder invasion. Similar results were reported by Curley et al[8]. This may be due to the fact that carcinomatous infiltrates cause contraction of the bladder or enterovesical fistulae. The presence of these symptoms however should not preclude en bloc resections. Colorectal cancer patients with urinary symptoms should therefore be assessed thoroughly. A pre-operative cystoscopy may help in the diagnosis of those patients with bladder symptoms, as they are likely to require some form of bladder resection.

In this series, 82% of the patients were alive at the time of follow-up. Of 309 patients without adjacent organ invasion with Dukes' B and C treated in the department in the same period subjected to curative surgery, 84% are alive. The prognosis of patients with bladder infiltration does not appear to be significantly different from patients without bladder involvement provided the tumour was removed with clear margins.

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