

**Original Article****The Management of Primary Retroperitoneal Tumor During Perioperative Period**

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**ABSTRACT** **Objective:** To explore the effect of management on primary retroperitoneal tumor (PRPT) and to analyze the influencing factors during perioperative.

**Methods:** 268 cases with primary retroperitoneal tumor undergoing resection, the patient's histological type, the trend of tumor location and associated with management methods during perioperative period were reviewed retrospectively.

**Results:** In this study, 216 cases with primary retroperitoneal tumor underwent total resection (132 cases were malignant tumor and 84 cases benign). Among them, combined resection for the involved organ were 46 cases; 39 cases underwent palliative resection (21 cases were malignant tumor and 18 cases were benign tumor); 11 cases underwent tumor biopsy only (9 cases were malignant tumor and 2 cases were benign tumor). Among the 162 cases malignant patients, leiomyosarcoma were 52 cases, liposarcoma were 54 cases and neurilemmoma were 42 cases and others were 14 cases; the 1, 3, 5 years survival rate for the 162 malignant PRPT was 91%, 78% and 19.6%, the 1, 2, 3 years survival rate for the 39 cases with palliative resection and 11 cases biopsy only was 22%, 15.6% and 4.2%. In 106 cases benign patients, teratomas were 38 cases, schwannoma were 27 cases and lipomas were 41 cases and the 1, 3, 5 years survival rate was 97.2%, 88% and 66.3%. The 1, 3, 5 years survival rate for combined resection for the involved organ was 81.2%, 58% and 36.3%.

**Conclusion:** 1. B-ultrasonography, CT and MR are very important for preoperative evaluation. 2. Combined resection for the involved organ could increase resection rate and improve cure rate. 3. Fully prepare and treatment is very important before operation.

**KeyWords:** retroperitoneal neoplasms; surgical procedures; perioperative

Primary retroperitoneal tumor (PRPT) is a rare but diverse group of neoplasms located in retroperitoneal space, which doesn't include these tumor arising from pancreas, kidney, adrenal gland and large blood vessel. As these organs which come from retroperitoneal is very complicated, tumor usually encircled even infiltrated other organs. Meanwhile because PRPT lack of clinical specificity, the early diagnosis of which was very difficult and so the operation opportunity was usually delayed [1]. The preoperative preparation was often insufficient, which lead to massive haemorrhage and the damage of organs around tumor [2], which takes up about 0.2% ~ 0.5% of all malignant tumors. Surgical resection is difficult because of close proximity of vital structures of the retroperitoneal, adjacent large vascularities and important organ

such as liver, spleen and so on. All of these may affect local recurrence, postoperative outcome and long-term survival rate. A retrospective review of 226 cases of PRPT in our hospital was performed to analyze the factors influencing postoperative outcomes and to explore treatment strategy of primary retroperitoneal tumor [3].

**Material and Methods**

From May 1989 to Jan. 2008, 268 patients with PRPT were treated in our hospital. Among these patients, 142 males and 126 females. Their age ranged from 6 months to 73 years, disease course from 3 day to 25 years and mean time was 18 months. 82 patients had no any symptoms before taking physical examination, while 186 had clinical symptoms such as abdominalgia and swelling (106 cases, 56.98%); abdominal tumor (56 cases, 31.10%); lumbar vertebrae and sacral vertebrae pain (24 cases, 12.90%). Physical examination: abdominal tumor 158 cases (55.24%); abdominal oppress pain 76 cases (28.35%) and no sign 34 cases (12.68%). All patients underwent ultrasonography, CT and/ or MRI. Among them, 196 cases with PRPT were diagnosed preoperatively through preoperative puncture or surgical biopsies following ultrasonography, CT and/ or MRI.

**Results**

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In this group, 216 patients underwent resection completely (including tumor resection plus multiple organs resection), among them, malignant tumor 132 cases, benign tumor 84 cases. Thirty-nine cases underwent palliative resection, among them 21 cases were malignant tumor and 18 were benign; Eleven cases underwent tumor biopsy only, among them 9 cases were malignant tumor and 2 were benign. All postoperative pathological diagnosis were primary retroperitoneal tumor. Among them, 122 cases come from mesenchymal tissue (lipoma 21 cases, leiomyoma 16 cases, lymphangioma 22 cases, hemangioma 11 cases, fibroma 12 cases, liposarcoma 16 cases, leiomyosarcoma 7 cases, malignant fibrous histiocytoma 6 cases, rhabdomyosarcoma 4 cases); 66 cases come from nervous tissue (neurofibroma 21 cases, schwannoma 15 cases, paraganglioma 11 cases, malignant neurofibroma 9 cases, malignant schwannoma 8 cases, malignant paraganglioma 2 cases); 42 cases come from embryonic residue tissue (teratoma 18 cases, nephroma 12 cases, malignant teratoma 6 cases, seminoma 6 cases) and tissue source can not sure patients were 38 cases.

## Discussion

PRPT is not less in our clinical work and the operation is still main method for PRPT. As there are large dissection space, deeply position, complicated tissue structure and complicated tissue source, PRPT lack of particular clinical syndrome and is difficult to diagnosis early. It is usually very large when in hospital. Meanwhile, because PRPT often involved the blood vessels, nerves and other organs within retroperitoneal, so they are difficulty to be resected completely, resection rate is low and easily to relapse. Surgery remains the main method of treatment of PRPT because of the lack of effective adjuvant therapy, and sufficient preoperative preparation is the key for successful operation. When PRPT is to be diagnosed, it is useful to utilize the various methods to evaluation preoperative and which include: whether the tumor can be resected or not; the possibility and necessary of resection of adjacent involved organs and the repair of blood vessel resection. In addition, the function of vital organs evaluation and the endure ability of patient is also very important. Preoperative ultrasonography, CT, MRI and DSA can clearly demonstrate the location of tumor and adjacent organs and vascularities[4]. These would be helpful to make a precise surgical plan. Meanwhile, both renal function should be examined and the preparation of intestinal canal should be done in case of combined resection. Sufficient blood should be prepared according to the size and localization of tumor, and also prepared for vessel resection and reconstruction.

The selection of incision: Primary retroperitoneal tumor usually very deep and with plentiful blood vessel, the principle of incision is that the incision must be favourable to expose tumor fully, easy to dissect and haemostasis, decrease the spread of tumor cell and avoid bacteria contaminate. The middle abdomen incision is suited to most PRPT patients and transverse incision or thoracoabdominal, sacrum-abdominal incision is necessary to some PRPT pa-

tients. Altogether, the large surgical incision, sufficient exposure and favorable surgical visual field were important to operation, less complication and higher safety. From May 1989 to Jan 2008, 268 PRPT patients, middle abdomen incision were 198 cases, thoracoabdominal incision were 21 cases and sacrum-abdominal incision were 12 cases, the rest PRPT incision along with the location, longest axis of tumor. Alliance organs resection is necessary to those PRPT with huge volume or which come from mesenchymal tissue and nerve tissue. As the volume of tumor usually very large when diagnosed, the normal anatomy of tissues and organs in abdominal cavity have been changed. In addition, because of the infiltrative growth of tumor, the kidney, ureter, gastrointestinal tract and spleen often to be involved, which makes the operation of PRPT become very difficult and complicated[5,6]. In our report, 61 patients (24.79%) underwent multiple organs resection and 12 patients (4.87%) did vessel reconstruction. 226 patients (91.86%) were subjected to complete tumor resection and the resection rate was higher than other domestic reports[7]. They advocated the first reason for incomplete resection was vascular invasion. In our experience, if the inferior vena cava was obstructed or had collateral circulation, reconstruction of it was necessary after resection. In our study, the tumor ranged from 5cm to 56cm in size, and the largest axis (> 20cm) were 26 cases (10.59%). The proportion of large bulky tumors was more than other reports. As a result, sufficient preoperative preparation, positive multiple organs resection, vessels reconstruction guaranteed higher complete resection rate [8].

In primary retroperitoneal tumor, malignant tumor takes up about 80% of it. The proportion of complete resection is not higher and easily to relapse [9]. It was reported that the local recurrence varies from 43% to 82% and median recurrence time ranged from 12 to 24 months [10]. PRPT patients who were not been complete resection at first operation or encapsulation rupture, easily to metastasis through plantation. These patients should have physical examination every 3 months. Ultrasonography, CT and MRI should be done as soon as abdominal pain and other symptoms were found. To those without symptoms, follow-up by CT scans or MRI at 6-month interval can be valuable to operate early for improvement of survival [11]. Postoperative follow-up ranged from 3 month to 20 years. The characteristic of PRPT is easily to local recurrence [12]. In this group, 58 patients had local recurrence and less than other reports. This might be associated with higher complete resection rate. The 1, 3, 5 years survival rate for the 144 malignancies was 91%, 78% and 19.6%; the 1, 2, 3 years survival rate for the 29 cases with palliative resection and 13 cases biopsy only was 22%, 15.6% and 4.2%. In 94 cases benign patients, teratomas were 34 cases, schwannoma were 20 cases and lipomas were 40 cases. In this group, the 1, 3, 5 years survival rate was 98%, 88% and 76%, which was obviously higher than those in incomplete resection patients.

In summary, the steps to improve therapeutic effectiveness include: (1) Be sure to performed complete resection. (2) Early find

ing, early diagnosis, and early operation can get better effects. (3) Fully prepartion (blood circulation, gastrointestinal tract, not intravenous drip through lower limb and moral encouragement) and treatment before operation is very important.

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BRITISH  
LYMPHOLOGY  
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## Promoting Professional Lymphoedema Services

The British Lymphology Society (BLS) has a board of Trustees who co-ordinate the work of the Society, and strive to develop the organisation to better meet the needs of its membership.

BLS is a charitable organisation with a membership of health care professionals from various specialities, and others who have a direct interest in promoting effective management of lymphoedema and the work of the Society.

### What is the work of the society?

The main aims of BLS are to:

1. Promote awareness about lymphoedema to the public, health care professionals and relevant departments within the Department of Health. This will include awareness about patients who are 'at risk', and those with chronic oedema with lymphatic deficiency (COLD).
2. Re-evaluate current lymphoedema guidelines, and publish evidence-based standards that underpin treatment for the long term management of lymphoedema and COLD.
3. Be actively involved in promoting the need for equitable and sustainable services for people living with lymphoedema or COLD.
4. Ensure that members are central to the future development of the Society.
5. Ensure that the patient's perspective is reflected in issues related

to service development and delivery of care within the UK.

6. Encourage participation in research, using validated methodology, to advance and improve outcomes for patients with lymphoedema and COLD.

7. Raise awareness about minimum standards, as defined by BLS, and endeavour to ensure that any person with lymphoedema should have access to a service that provides minimum standards.

8. As an organisation, BLS is committed to continuously working towards improving channels of communication. With the re-launch of the website on the 18th May 2007, we hope to encourage greater interaction and sharing of information.

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