

MORBIDITY FOLLOWING SARCOMA SURGERY OF THE EXTREMITIES

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Background

- Limb salvage surgery for soft tissue sarcomas (STS) of the extremity leads to significant amount of morbidity
- Excision of the tumour alone is not the end of the story
- We looked into the various post excision problems faced by these patients

Patients & Methods

Retrospective review of 96 patients who underwent tumour excisions in their extremities over a period of 5 years from 1999 to 2004 with a minimum follow up of 8 months

Patients & Methods

- Complete data of every patient was reviewed with particular emphasis on complications/morbidity during the post operative period
- All patients had X-rays, baseline blood investigations, MRI scan of the affected limb, CT thorax and trucut biopsy
- All patients were treated by one Consultant and the histology report was given by one Pathologist
- 2 consultant Radiologists were involved in giving radiological reports

Results

- There were 39 males and 57 females with an average age of 51 years (Range 13 yrs to 84 yrs)
- The average duration of swelling at presentation was 6 months with a huge variation between cases (from 7 days to 11 years)

Results

- 72 patients had STS in their lower limbs while the rest had in the upper limbs
- Of the 72, 53 were either at the level of knee or above the knee with the anterior compartment of thigh being the most common site (13) and Vastus Lateralis being the commonly involved muscle

Results

- Liposarcoma was the commonest tumour (22)
followed by
 - Leiomyosarcoma (19)
 - Fibro sarcoma (14)
 - Synovial Sarcoma (12)
 - Rhabdomyosarcoma (10)
 - Histiocytoma (9)
 - other rare sarcomas

Results

- No metastasis was found during pre op. screening in 71 patients (74%) while 11 (12%) had metastasis in their lungs, 9 (10 %) in their regional draining lymph nodes and 5 others in their liver (4 %). 4 had multiple organ involvement on presentation.

Results

- Trojani grade of the tumours were

- Grade 1 = 36

- Grade 2 = 39

- Grade 3 = 21

Results

- 17 had radical excision
- 61 had wide local excision
- 12 had marginal excision
- 6 patients had palliative treatment only due to extensive metastasis
- 38 patients had post op radiotherapy either due to the aggressive nature of the tumour or due to inadequate margins

Results

- The average interval between presentation and definitive treatment was 28 days (Range 3-91 days)
- 22 of the 73 patients (31 %) with no mets pre op. developed mets during follow up

Results

- The commonest post op problem is inadequate skin cover (17) following radical dissection which required split skin graft in 14 cases and flap cover in 3
- Three of the split skin grafts got necrosed as a sequel to radiotherapy in the post op period
- 3 others developed skin rashes after radiotherapy

Results

- Local recurrence & lymphoedema are the next most common problem (12 each)
- Seroma/Haematoma was noted in 8 patients
- There were 7 superficial infections and one deep infection.

Results

- Fixed Flexion Deformity at knee of > 10 degrees was noted in 5
- Intractable neurological pain in 4 cases
- 2 had ulnar nerve palsy and one had foot drop

Results

- DVT occurred in 3 patients
- Stump neuromas created problems in 2 cases which required surgical excision
- 2 ended up with below knee amputation
- 7 patients in total required psychiatric help to overcome depression

Results

- Anxiety among patients resulted in 11 further surgeries for benign swellings in other parts of the body but none proved to be malignant
- The average life span of the patients from the time of confirmed diagnosis was 23 months

Results

- The average life span for
 - Rhabdomyosarcoma was 8 months
 - Histiocytoma was 12 months
 - Liposarcoma was 19 months
 - Leiomyosarcoma was 28 months and
 - Synovial sarcoma was 36 months

Results

- Patients with Trojani grade 3 died at an average of 9 months when compared to 38 months for grade 1
- The average life span in patients with lymph node involvement was 13 months in total when compared to 31 months for others

Discussion

- Soft tissue sarcomas (STS) are tumours arising from muscle, fascia, connective tissue, fibrous tissue and fat
- It constitutes <1% of all cancers
- It is common between 30-60 years except Rhabdomyosarcoma which occurs in young children

Discussion

- Half of these tumours arise in extremities while the rest in head, neck and trunk
- Lower extremity accounts for $> 40\%$ of all STS with anterior thigh (quadriceps) being the most common compartment followed by the adductors and hamstrings

Discussion

- Radical resection of huge tumours in the extremities leads to significant morbidity
- The resection may involve sacrificing neuro-vascular structures to achieve adequate clearance
- In spite of a good clearance, there is evidence of frequent local recurrences and distant metastatic spread

Discussion

- Varying time interval between commencement of the swelling and time to presentation
- There is still lack of awareness among the general public about innocuous looking swellings
- Ignored at the beginning only to present late with distant metastasis when the prognosis becomes poor

Discussion

- The average time interval between confirmed diagnosis and definitive surgery in our hospital was 28 days which is well within the target set by the Department of Health for treating cancer patients

Discussion

Inadequate skin cover following excision of the tumour especially at sites like knee and ankle joint requiring split skin grafts was found to be the most common problem in our series

Discussion

- Radical resections which include removing the draining lymph nodes in areas like groin & axilla with or without radiotherapy is the reason for the increased incidence of lymphoedema in our series
- Deo et al reported a prevalence of lymphoedema of 13.4 % in patients treated with surgery only where as the prevalence was 42.4% in patients treated with surgery and radiotherapy

Discussion

Potential dead spaces after removal of huge tumours result in seroma and haematomas but most of the time it spontaneously resolves without the need for any surgery

Discussion

- ❑ Superficial infections are common which can be readily controlled with oral and intravenous antibiotics
- ❑ The other notable complication following radiotherapy is the occurrence of skin rashes and skin graft necrosis. Spierer noted that 95% of his grafts survived following RT but the complication rate increased when adjuvant brachytherapy was given

Discussion

- Kunisada reported that nineteen of his patients (44%) developed post-operative wound complications including 10 (23%) who required an additional surgical procedure. Four (27%) of his patients developed flap necrosis in a group of 15 who underwent primary vascularized soft tissue transfer.
- Intractable pain, neuromas, depression, restriction of knee movements, DVT etc., are some of the other complications that were noted down in our series.

Conclusion

- Significant complications can occur after sarcoma surgeries
- Patient should be adequately informed about the complications pre op.
- Patients expectations should be sought pre op.
- Surgeon should properly plan his surgery liaising with other specialities concerned
- Radical excision offers no significant advantage over wide local excision

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