

Cancer protocols
TIMING OF IMPLANTATION
Standard protocol vs Delayed Implantation

Complete recovery from chemo

- TOO MANY COMPLICATIONS.....We should either place a temporary spacer or delay surgery longer after the completion of chemotherapy to decrease the complications.
- Post operative complications may delay post op chemotherapy

SURGICAL DELAY

- The concept of giving patients chemotherapy prior to surgery was a result of the delay of surgery/ reconstruction because of custom made implants.
- With the modernization of modular oncologic implants, a distal femur may be done the same day as diagnosis.
- The value of understanding tumor response has prompted the continued delay of surgery to allow for pathologic examination for %tumor necrosis.
- IS THE NEXT STEP TO DELAY SURGERY FURTHER TO ALLOW RECOVERY?

Early complications are increased

• **Complications and surgical indications in 144 cases of nonmetastatic osteosarcoma of the extremities treated with neoadjuvant chemotherapy**

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Complications and surgical indications in 144 cases of nonmetastatic osteosarcoma of the extremities treated with neoadjuvant chemotherapy

- 144 patients with osteosarcoma of the extremities were treated with combined surgery and neoadjuvant chemotherapy. The disease-free survival was 79% for good responders (necrosis greater than 90%) and 72% for poor responders (necrosis less than 90%), and the local recurrence rate was low.
- Most of the complications were observed in limb-salvage procedures; **63% of these procedures presented one or more complications**. 55% of patients were affected by surgical complications. 28 complications were considered minor (not requiring surgery), whereas **77 complications were major**.

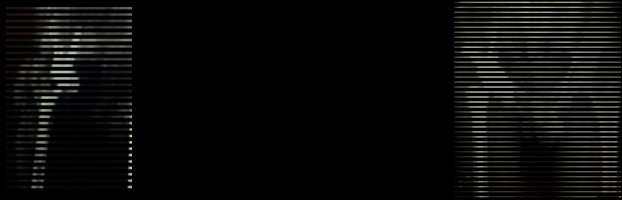
- "The most troublesome consequence of surgical complications in osteosarcoma is the deviation or delay in administering postoperative chemotherapy, which jeopardizes survival."

Complications associated with Standard Protocol

- Delay in post operative chemotherapy
- Increased risk of surgical site infection
- Potential increase in blood transfusion
- Periprosthetic fracture due to inhibition of bone remodeling
- Prolonged hospitalization
- Increase in nosocomial infections

Pelvic resections/hip resections

- Internal hemipelvectomy; Functionally acceptable procedure without reconstruction
- Delayed reconstruction may be performed at second stage procedure



Questions

- How long should we wait? Normal blood counts? Specific time?
- Will surgical resection or reconstruction be more complicated on a delayed bases?
- Can we do a randomized study prospectively looking at surgical timing and/or reconstruction after the completion of chemotherapy?
- Should we resect a poorly responding tumor (based on imaging) or delay for alternative or additional prolonged chemo?
