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FOREQUARTER AMPUTATION FOR HIGH-GRADE LIPOSARCOMA IN AN ELDERLY PATIENT: A CASE REPORT

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Abstract

Background: Forequarter amputation (FQA) is a radical surgical procedure generally indicated for extensive malignant tumors of the shoulder girdle when limb-salvage is not feasible. In elderly patients, the perioperative management is challenging due to age-related physiological decline and comorbidities.

Case Presentation: We report the case of an 84-year-old woman with a large, high-grade liposarcoma involving multiple muscle groups of the right shoulder girdle. Imaging revealed tumor infiltration into intercostal, serratus anterior, pectoralis, subscapularis, latissimus dorsi, coracobrachialis, and short head of biceps brachii muscles. Given the extent of disease, a multidisciplinary team recommended a right FQA. General anesthesia was induced with propofol and atracurium, and maintained with isoflurane in a nitrous oxide-oxygen mixture. An arterial line was inserted for continuous blood pressure monitoring. Surgery involved en bloc resection of the right upper limb, scapula, and clavicle, with ligation of axillary vessels and brachial plexus division. Blood loss was approximately 800 mL, and 2 units of packed red cells were transfused. Postoperative analgesia included intravenous paracetamol and morphine. The patient recovered uneventfully and was discharged on postoperative day 7. Histopathology confirmed high-grade undifferentiated pleomorphic sarcoma.

Conclusion: This case highlights the feasibility of FQA in elderly patients when performed with careful multidisciplinary planning and vigilant perioperative management.

Keywords: Forequarter amputation, high-grade liposarcoma, elderly patient, perioperative management, case report.

INTRODUCTION

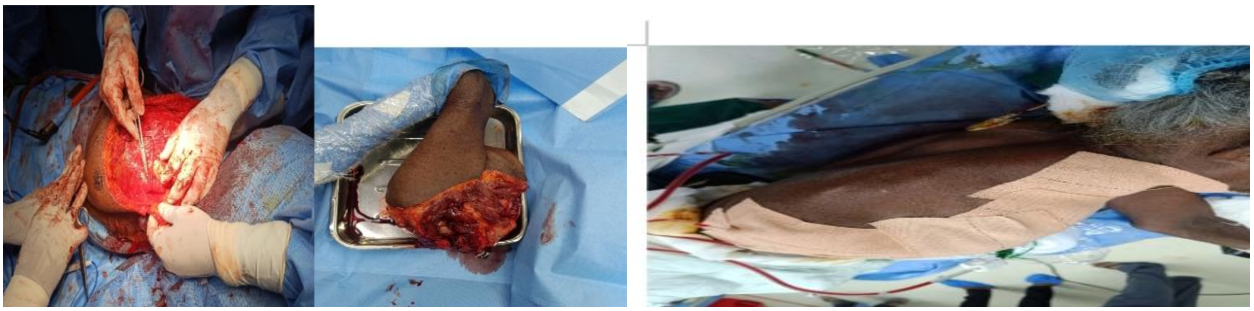
Forequarter amputation (FQA) is an extensive ablative surgical procedure involving removal of the entire upper limb along with the scapula and clavicle. It is primarily indicated for high-grade malignant tumors of the shoulder girdle that cannot be managed by limb-sparing techniques. Although effective in achieving local disease control, the procedure is associated with significant surgical and anesthetic risks, particularly in elderly patients who often present with reduced physiological reserve. This report describes the perioperative management and surgical outcome of an 84-year-old woman undergoing FQA for high-grade liposarcoma.

CASE PRESENTATION

An 84-year-old woman presented with a progressively enlarging mass over the right shoulder, associated with pain and restricted range of motion. She denied history of prior surgeries or comorbid conditions. Functional status was good (ECOG performance status 2), with preserved cognitive function.

PREOPERATIVE ASSESSMENT

Physical examination revealed a firm, irregular mass occupying the right shoulder region. Magnetic resonance imaging demonstrated tumor infiltration into the intercostal muscles and serratus anterior medially; pectoralis group anteriorly; subscapularis and latissimus dorsi posteriorly; and coracobrachialis with short head of biceps brachii laterally. Core needle biopsy confirmed high-grade liposarcoma. Given the tumor's size, anatomical location, and involvement of major neurovascular structures, limb-salvage surgery was not feasible.
A multidisciplinary team comprising oncology, anesthesiology, geriatrics, and surgical oncology recommended a right FQA. Laboratory tests, electrocardiography, and echocardiography were within acceptable limits for surgery.



ANESTHETIC MANAGEMENT

The patient received glycopyrrolate (0.2 mg), midazolam (1 mg), and fentanyl (80 mcg) as premedication. General anesthesia was induced with propofol (80 mg) and atracurium (30 mg). Airway was secured using a Macintosh laryngoscope and a 7.0 mm internal diameter cuffed endotracheal tube, fixed at 18 cm at the incisors. Maintenance anesthesia consisted of isoflurane in a nitrous oxide-oxygen mixture.
Invasive arterial pressure monitoring via a 20G cannula in the left radial artery was established due to anticipated blood loss. Normothermia, fluid balance, and hemodynamic stability were carefully maintained.

SURGICAL PROCEDURE

A standard FQA was performed with en bloc resection of the right upper limb, scapula, and clavicle. The axillary vessels and brachial plexus were ligated and divided. Primary wound closure was achieved. Estimated blood loss was 800 mL, and 2 units of packed red blood cells were transfused intraoperatively.

POSTOPERATIVE COURSE

The patient was extubated immediately postoperatively and transferred to the surgical ward. Analgesia was provided with intravenous paracetamol and morphine. Mobilization with assistance began on postoperative day 2. Wound healing was satisfactory, and histopathological examination confirmed high-grade undifferentiated pleomorphic sarcoma. She was discharged home on postoperative day 7 with a referral to palliative oncology for further management.

DISCUSSION

FQA is rarely performed in elderly patients due to concerns regarding perioperative morbidity and mortality. However, when indicated for oncological control, it can be life-prolonging and improve quality of life by alleviating pain and preventing local complications.

In this case, favorable outcomes were achieved through careful preoperative optimization, multidisciplinary collaboration, and vigilant intraoperative monitoring. The choice of isoflurane allowed for hemodynamic stability, while invasive arterial monitoring facilitated rapid intervention during periods of blood loss. Postoperative pain was managed effectively without regional anesthesia, avoiding potential complications in this frail population.

CONCLUSION

Forequarter amputation remains a viable option for selected elderly patients with advanced shoulder girdle malignancies. Successful outcomes depend on comprehensive preoperative evaluation, meticulous anesthetic planning, and coordinated surgical care.

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