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Latissimus dorsi flap: old solution for coverage, new option to restore function

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BACKGROUND

Latissimus dorsi flap (LDF) is a valid option to fill in big tissue defects after the excision of bone and soft tissue sarcomas of the upper limb. To substitute the function of a resected muscle is still challenging. The aim of this study is to evaluate the possible indications for a LDF either pedicled or free.

METHODS

Fourteen LDFs have been performed from 2006 to 2012 at Orthopaedic Oncology Department CTO Hospital (Torino, Italy) in 14 patients (7 males; average age 52,5 years old, range 17-78 ys). The purpose of the flap (either coverage or functional), the characteristics of the flap (pedicled or free), the grafted area (upper or lower limb) have been evaluated. The function was measured comparing the function of the opposite limb.

RESULTS

Six coverage LDFs (5 pedicled flap in the upper limb, 1 free flap in the lower limb) and 8 functional LDFs (6 in the upper and 2 in the lower limb) were performed. Functional LDFs substituted the deltoid muscle in 5 cases, the triceps, the quadriceps, the glutei in 1 case. The function was good in the upper limb except for the cases of associated bone resection and reconstruction; it was only fair in the lower limbs.

CONCLUSION:

LDFs are characterized by low morbidity in the donor area, large amount of available tissue, easy harvesting with a trustworthy bundle. This study confirms the reliability of LDF as a coverage flap either pedicled or free. Even if good functional results were obtained in the upper limb, the possibility of using free LDFs to substitute a lower limb muscle (gluteus, quadriceps) is still debated. Where no other surgical options are available LDFs offer a strong and widespread reconstructive solution. Further studies are needed to clarify the use of functional flaps in reference centres.

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