The Use of The Extended Transverse-Oblique Back Flap For Myelomeningocele Defect Closure

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Several techniques were described for myelomeningocele soft tissue coverage including; local random flap, pedicled muscle flaps and paraspinal perforator-based flaps (1-3). The aim of this paper is to present a simplified technique of raising a medially based transverse-oblique back flap that is reliably extended to the anterior axillary line. We also compared the outcomes of this technique with the use of local random flap and primary closure.

Methods

We performed a retrospective review of all new myelomeningocele cases that were treated in our institution over the past 6 years. We stratified our patients into 3 groups; patients who were treated with primary closure (group 1), patients who were treated with the use of random local flaps (group 2) and patients who were treated with the extended transverse oblique back flaps (group 3). This flap is based on the paraspinal perforators and extended to the anterior axillary line to raise a long and relatively narrow fasciocutaneous flap. Part of the latissimus dorsi can be included in this flap as well. This technique provides a flap that is long enough to make visualizing or dissecting the perforators unnecessary. We compared the outcomes of this technique including complications, reoperation, and hospital stay with the other two techniques mentioned above.

Results

Forty-nine patients required soft tissue coverage of myelomeningocele defects. Among those; 10 patients were closed primarily, 16 patients were closed using random local transposition or rotation flaps and 33 patients were treated with the extend transverse oblique back flaps. For the groups above; the average sizes of the soft tissue defects before reconstruction were 32Cm2, 27Cm2 and 36Cm2 respectively ($P= 0.4$). All extended transverse back flaps survived completely except 2 flaps that developed distal tip necrosis of about 1-1.5cm.

The overall complications rate (including major and minor complications) were 50% in first groups (5/10) vs. 100% in the second group (6/6) and 36.3% in the third group (12/33).

The need for reoperation was lower in the third group (2/33) vs. the
second group (2/6) (P value of 0.04).

Conclusion

The extended transverse oblique back flap provides a simple and reliable method of myelomeningocele defects closure in the first week of life. This technique also seems to be better and more reliable than random skin flaps in our hands.

Reference Citations:


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