frontal scalp region, because the flap was harvested medial to the supratrochlear and supraorbital nerves.

CONCLUSION: The central artery perforator propeller flap is a reliable option for the repair of large nasal defects and medial canthal region. This flap can cover large defects in single stage surgery without causing dog-ear deformity or eyebrow asymmetry.

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Proposal of a New Minimally Invasive Technique for Latissimus Dorsi Muscle Harvest

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OBJECTIVE: To evaluate the feasibility of the latissimus dorsi muscle (LD) harvest assisted by endoscopy and the reduction of surgical times in an animal model.

MATERIAL AND METHODS: Three (unilateral) procedures of LD assisted by endoscopy were performed in 3 pigs through a single incision, with the placement of three work ports for the first pig and 2 for the other two, the surgical times were recorded, errors and complications in the technique.

RESULTS: In the first model, the incision measured 10–12 cm and three working ports were placed, according to the traditional dissections described in different articles. In the following two models only 3–4 cm incision was necessary. The surgeon took another position and placed only two working trocars, allowing a better dissection, without the need for a third work port. With the new position of the surgeon and placement of the trocars, the reduction of surgical time was achieved, the first model with a time of 2 hours and 30 minutes, second 2 hours and 05 minutes and finishing the third model with 1 hour and 15 minutes.

CONCLUSION: In the literature, 88 to 289 minutes are reported for endoscopic LD harvest.1,2 This model is within the published times, managing to reduce the harvest time with the use of only 2 work ports. For the LD endoscopic harvest, especially for immediate reconstruction after mastectomies, a greater learning curve is required, which is why a training model is indispensable, being the porcine model ideal, due to its anatomy comparable to that of humans.3,4

The minimally invasive (LD) dissection can be performed in less time, by placing the surgeon cranial to the model, thus facilitating the dorsal and caudal dissection of the muscle, with this change of position can have greater access to the distal edges of the LD, so that a second incision is no longer necessary and the only incision can be reduced in size compared to traditional techniques where two incisions are made, and the placement of a third work trocar being unnecessary.

This is the initial study for the description of the endoscopy assisted technique, to minimize the difficulty of the movement of the endoscopic instruments and to improve the surgical times, which will give way to be able to perform more extensive studies, in order to implement this technique in a way routine in humans.

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The Use of Bilateral Paraspinous Muscle Flaps and Bilateral Composite Latissimus Dorsi and Gluteus Maximus Flaps for Closure of Lumbosacral Myelomeningocele Defects in Infants

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PURPOSE: Myelomeningocele is the most common congenital malformation of the central nervous system, with a prevalence of 4.4 to 4.6 per 10,000 live births in the United States. They are most commonly observed in the lumbosacral region, as this is the last region of the neural tube to fuse.1 Robust, reliable and reproducible closure of lumbosacral myelomeningocele defects remains a challenge. Closure of spinal defects following neurosurgical procedures with well-vascularized flaps in high-risk patients has been shown to reduce complications in the adult population.2 In infants with lumbosacral myelomeningocele, in addition to the relatively standard neurosurgical repair that consists of placode tubularization and dural repair, multiple methods of soft tissue coverage have been described. These include various cutaneous, fascial and muscle flaps and grafts. We present here our unique closure technique with well-vascularized flaps following lumbosacral myelomeningocele repair.

METHODS: After the neurosurgical repair of lumbosacral myelomeningocele is completed, bilateral composite latissimus dorsi musculocutaneous and gluteus maximus fasciocutaneous flaps are elevated. The gluteus maximus fasciocutaneous flaps are completely elevated from their insertion on the ileum and sacrum. The paraspinous muscle flaps are then elevated and medialized based on the lateral row arterial perforators to provide complete muscular coverage of the dural repair. The bilateral composite latissimus dorsi musculocutaneous and gluteus maximus fasciocutaneous flaps are medialized, reapproximated with the sacrum, and closed over the paraspinous muscle flap repair.

Demographic and outcomes data of 9 patients from June 2014 to present were retrospectively reviewed.

RESULTS: Of the 9 patients that underwent the above technique for closure of myelomeningocele defects, all repairs were performed between days of life 0–3. Seven of 9 (77.8%) had Chiari 2 malformation and 3 of 9 (33.3%) required ventriculoperitoneal shunt. There have been no episodes of dehiscence with a median follow-up of 52 weeks (6–161 weeks). One patient experienced a small area of superficial skin necrosis requiring surgical excision and reclosure.

CONCLUSION: Use of bilateral paraspinous muscle flaps covered with bilateral composite latissimus dorsi and gluteus maximus flaps provides robust and durable coverage of lumbosacral defects following neurosurgical myelomeningocele repair in infants.

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