

ADYNAMIC GRACILOPLASTY FOR FECAL INCONTINENCE IN AN ADULT AFTER ANAL ATRESIA AND FAILED CORRECTIONS IN INFANCY – A CASE REPORT

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Key words: fecal incontinence, gracilis muscle, graciloplasty.

Summary

Fecal incontinence after surgeries for anal atresia is not rare. One of the possible treatment alternatives – adynamic graciloplasty. We present a case of an adult patient to whom adynamic graciloplasty was performed for fecal incontinence after single attempt of sphincter repair in childhood. There was a symptomatic improvement postoperatively, as confirmed by Wexner and FISI index. Adynamic graciloplasty could be more often used as a treatment option of fecal incontinence in adult patients with history of anal atresia.

Introduction

Fecal incontinence is a very distressing condition, largely affecting patient's quality of life. There may be many etiologies causing this symptom, but one of the possible causes is congenital anal atresia - not rarely early repair in infancy is unable to correct this problem. The use of gracilis muscle for fecal incontinence in this particular group of patients is known more than for a half of century (1). A dynamic graciloplasty for various etiologies of fecal incontinence has been more recently introduced as a very promising alternative (2). In time, this technique was reported to have high complication and reoperation rate, as well as significant failure rate (3). We report a case of successful adynamic graciloplasty in an adult female with a history of congenital anal atresia.

Case report

Patient A.D., female, born 1969, was referred because of fecal incontinence and mucosal prolapse in September 2017. Patient was born with anal atresia, underwent single attempt

of repair during infancy, but the whole life was suffering of fecal incontinence.

Patient was investigated. At rest, anus was opened for 1,5-2 centimeters, and on straining there is a semicircular prolapse of several centimeters of rectal mucosa of anterior wall. She was several times operated for this prolapse and anal polyps, which were inflammatory on histology and likely related with constant contact with underwear. Proctoscopy did not reveal any additional pathology, and colonoscopy was normal. Despite these symptoms were from early childhood and patient lived with them, now patient claimed impaired quality of life and social adaptation restrictions, and was seeking for solution of her condition.

Prior our surgery, her Wexner score was 19 and FISI index was 44.

Patient was operated on 2017 11 08, an unstimulated graciloplasty was performed. The operation was carried out in lithotomy position. Through three short separate incisions in the right thigh musculus gracilis was harvested with the tendon (Fig. 1) up to the level where anterior branch of obturator nerve enters the muscle, in proximity to vascular pedicle – terminal branch of circumflex femoral artery (Fig. 2) approximately 10 cm below pubic tubercle. The muscle was threaded forward to the perineal area where oval incision was made (Fig. 3) and wrapped around the anus using additional small incision below the tip of the coccygis (Fig. 4), and tendon of the gracilis muscle was fixed with the 1.0 nylon interrupted sutures to the periosteum of lower surface of ischial tuberosity on the same side (right side). Meticulous hemostasis was performed and wounds closed in layers, a penrose drain left in the bed of the gracilis muscle in lower thigh for 24 hours. Postoperative course was uneventful.

After 4 weeks, a course of low frequency electric external stimulation in the area around the neurovascular bundle in the thigh was performed.



Fig. 1



Fig. 3



Fig. 2

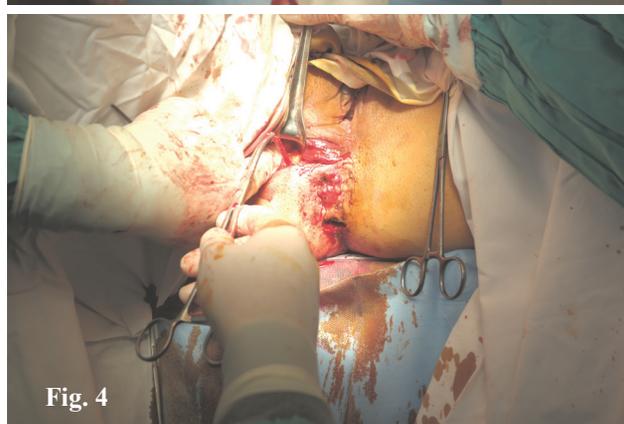


Fig. 4

Patient was evaluated 3 months postoperatively. On inspection, her anus was closed at rest. She stated moderate improvement in her continence and quality of life, her Wexner score was 10 and FISI score was 32.

Discussion

A large number of perioperative complications, which mostly are infective, technical and functional, as well as modest functional results did not make dynamic graciloplasty a very attractive procedure (4,5), even bearing in mind that for most of these patients stoma is the only possible alternative. It is related with learning curve effect and complexity of the procedure itself. The reasonable idea seems to be to substitute electrostimulation effect without implantation of sophisticated device simply by applying external electric stimulation postoperatively (6), which was done in our case as well. External low frequency nerve stimulation can be combined with biofeedback training sessions. There are records in the literature that type II muscle can be transformed into non-fatigue type I muscle by regular electric nerve stimulation (2). We used external postoperative nerve stimulation technique described by Niriella DA and Deen

KI (7), as they have as well demonstrated that with this adynamic graciloplasty technique functional results are equivalent to stimulated graciloplasty. Walega P and colleagues (8) made an analysis of their results with end-stage fecal incontinence, 7 patients with dynamic and 13 with adynamic graciloplasty. At 12 months, there was significant and similar improvement in both groups, with better squeeze pressures in adynamic graciloplasty group. In conclusion, with much less cost to achieve same results adynamic graciloplasty seemed to be a reasonable method of choice. In analysis of the literature recently done by Barisic G and Krivokapic Z (9), adynamic graciloplasty was effective in on an average 50% of cases, dynamic – appr. 60%, so hardly there was any difference again. Up to date, favorable reports are published in the literature on success of adynamic graciloplasty, mostly from Asia, though as a rule with small sample size and retrospective in nature (10,11,12). In our case, as well demonstrated by Shi GG at coauthors (12), we used v type of graciloplasty in order to avoid postoperative defecation problems, and we were able to record successful functional outcome.

Conclusion

Adynamic graciloplasty could be more often used as a treatment option of fecal incontinence in adult patients with history of anal atresia.

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ADINAMINĖ GRACILOPLASTIKA DĖL IŠMATŲ NELAIKYMO SUAUGUSIAM PO ATRESIO ANI IR NESĖKMINGŲ KOREKCIJŲ KŪDIKYSTĖJE. ATVEJO ANALIZĖ

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Raktažodžiai: išmatų nelaikymas, grakštusis raumuo, graciloplastika.

Santrauka

Išmatų nelaikymas po operacijų dėl *atresio ani* yra neretas reiškinys. Viena iš galimų alternatyvų – adinaminė graciloplastika. Šiame straipsnyje pateikiama atvejo analizė, kuomet suaugusiai pacientei dėl pilno išmatų nelaikymo po buvusios operacijos kūdikystėje buvo atlikta adinaminė graciloplastika. Po operacijos pagerėjo išmatų laikymo funkcija, kuri vertinta Wexner ir FISI klausimynais. Manome, jog adinaminė graciloplastika galėtų būti dažniau taikoma šiai pacientų grupei.

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Gauta 2018-12-20