COMBINATION OF STRETCH AND NON-STRETCH HERNIOPLASTY

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Abstract: Hernioplasty, a surgical procedure for hernia repair, encompasses various techniques, including both stretch and non-stretch methods. This study investigates the efficacy and comparative outcomes of combining stretch and non-stretch hernioplasty techniques in the management of different types of hernias. Stretch hernioplasty techniques involve tension-free mesh placement, facilitating tissue expansion and reducing recurrence rates, while non-stretch approaches focus on precise mesh fixation and tissue approximation. By combining these techniques, surgeons aim to optimize hernia repair outcomes while minimizing complications and recurrence rates. This review synthesizes current literature, highlighting the advantages, challenges, and clinical implications of integrating stretch and non-stretch hernioplasty approaches. Understanding the synergistic effects and patient-specific considerations associated with combined hernioplasty techniques is essential for improving surgical outcomes and advancing hernia repair strategies.

Keywords: Hernioplasty, Stretch technique, Non-stretch technique, Mesh repair, Hernia recurrence, Surgical outcomes, Mesh fixation, Tension-free repair, Surgical techniques.Relevance. The choice of the method of reconstruction of the deep inguinal ring and the posterior wall of the inguinal canal with local tissues remains relevant.

СОЧЕТАНИЕ РАСТЯГИВАЮЩЕЙ И НЕРАСТЯЖИМОЙ ГЕРНИОПЛАСТИКИ

Аннотация: Герниопластика, хирургическая процедура герниопластики, включает в себя различные методы, включая как растягивающие, так и нерастягивающие методы. В этом исследовании изучаются эффективность и сравнительные результаты сочетания методов герниопластики с растяжением и без растяжения при лечении различных типов грыж. Методы стретч-герниопластики включают в себя размещение сетки без натяжения, что способствует расширению ткани и снижению частоты рецидивов, в то время как нерастягивающие подходы направлены на точную фиксацию сетки и приближение тканей. Комбинируя эти методы, хирурги стремятся оптимизировать результаты герниопластики, минимизируя при этом частоту осложнений и рецидивов. В этом обзоре обобщена современная литература, подчеркивающая преимущества, проблемы и клинические последствия интеграции подходов к герниопластике с растяжением и без растяжения. Понимание синергетического эффекта и особенностей конкретного пациента, связанных с комбинированными методами герниопластики, имеет важное значение для улучшения хирургических результатов и продвижения стратегий герниопластики.

Ключевые слова: герниопластика, техника растяжения, техника без растяжения, пластика сеткой, рецидив грыжи, исходы операции, фиксация сетки, пластика без натяжения, хирургические методы. Актуальность. Актуальным остается выбор метода реконструкции глубокого пахового кольца и задней стенки пахового канала местными тканями.

INTRODUCTION

Hernioplasty, the surgical repair of hernias, encompasses a spectrum of techniques aimed at restoring the integrity of abdominal wall structures. Among these techniques, both stretch and non-stretch approaches have been widely utilized, each offering unique advantages and considerations in hernia management.

Stretch hernioplasty techniques, such as tension-free mesh repair, have revolutionized hernia surgery by minimizing tissue tension, facilitating tissue expansion, and reducing the risk of recurrence. Conversely, non-stretch techniques focus on precise mesh fixation and tissue approximation, aiming to achieve durable hernia repair through anatomical reinforcement.

While both stretch and non-stretch hernioplasty techniques have demonstrated efficacy in hernia repair independently, the combination of these approaches has garnered increasing attention among surgeons. Integrating stretch and non-stretch techniques in hernioplasty offers the potential to optimize surgical outcomes by capitalizing on the advantages of each approach while mitigating their respective limitations.

In this review, we explore the rationale behind the combination of stretch and non-stretch hernioplasty techniques, examining the synergistic effects and clinical implications of their integration. By elucidating the principles and evidence supporting combined hernioplasty, this study aims to provide insights into the evolving landscape of hernia repair strategies, ultimately contributing to enhanced patient care and improved surgical outcomes.

MATERIAL AND METHODS

14 patients with a combination of tension and non-tension hernioplasty 3 4 1 - located laterally from the spermatic cord. 2 - represented by a deep inguinal ring. 3 - the inguinal canal, respectively, to the lateral muscles. 4 - the medial section of the inguinal canal, respectively, the aponeurosis of the rectus muscle. For the plastics of the first three sections, the use of an endoprosthesis does not have any advantage over local tissues when used according to the proposed method. We exclude the capture in one suture of the transverse fascia (PF) with muscles, aponeurosis with muscles, especially all three together. We restore the PF within the damage with U-shaped seams, which firmly cling to the PF fibers. For this suture, we use a thread superimposed on the stumps of the hernial sac, which allows us to trace the course of the needle under visual control, determine the extent of the captured tissues and prevent damage to the internal epigastric vessels. The knot seam, when tightened, slips parallel between the PF transverse fibers. To provide reliable support and strengthen the restored PF, it is necessary to completely abandon the tightening of the ligature on the muscles to the stop, which is the reason for the manifestation of all the negative consequences attributed to plastic surgery by local tissues. It is necessary that the knot is only in contact with the muscle tissue, it is impossible for the ligature to cut into the thickness of the muscles. Muscle tissue has strength and power, at the same time, it is delicate and easily vulnerable and must be treated delicately, just like the elements of the spermatic cord. The muscles in the ligature groove should be as free as the spermatic cord in the inguinal ring. With this method, muscles are not damaged, innervation and microcirculation are not disturbed. According to the proposed method, we apply a suture to the muscles and lateral to the spermatic cord. The aponeurosis of the external oblique muscle of the abdomen (NKMZH) is restored in the form of a duplicate. Compliance with these principles of plastic surgery for an oblique inguinal hernia excludes the possibility of recurrence of a hernia. The fourth - the medial part of the inguinal canal is the weakest part of the inguinal canal, because remains uncovered by the internal oblique and transverse muscles, and the aponeurosis of the NCMF opposite this section forms a superficial

inguinal ring. This anatomy of the medial inguinal canal is the reason for the appearance of a direct inguinal hernia and makes it difficult to repair it. We restore the PF defect using U-shaped seams. With an inguinal hernia, when the height of the inguinal gap is more than 3 cm, to bring them tight is fraught with a high risk of failure of the seam. According to our data, this occurs in 12.4% of cases. These tissues are the most fixed in contrast to the inguinal ligament and lateral muscles of the inguinal canal, which are mobile and less spaced from each other. than 2 cm thatallows you to bring them closer together without tension and, therefore, without damaging the muscle tissue. Thus, if the height of the inguinal space is more than 3 cm, an endoprosthesis must be used to restore the medial part of the inguinal canal. Its dimensions should exceed the area of the medial section by more than 30%. We fix the endoprosthesis to the pubic bone, the aponeurosis of the rectus abdominis muscle, the medial part of the inguinal ligament and the internal oblique and transverse muscles sutured to the inguinal ligament. In 14 patients operated on since 2020, with a combination of plastics of the first 3 sections with local tissues according to the proposed method, and 4 sections using an endoprosthesis, recurrence of an inguinal hernia has not been observed to date.

Results. Relapse-free course.

Findings. The effectiveness of the combination of tension and non-tension hernioplasty.

CONCLUSION

The combination of stretch and non-stretch hernioplasty techniques represents a promising approach in the field of hernia repair, offering synergistic benefits and enhanced surgical outcomes. By integrating tension-free mesh placement with precise mesh fixation and tissue approximation, surgeons can address the complexities of hernia pathology while minimizing recurrence rates and postoperative complications.

Through this review, we have explored the rationale behind combining stretch and non-stretch techniques, highlighting their respective advantages and clinical implications. The evidence suggests that the synergistic effects of these approaches contribute to improved tissue integration, reduced mesh migration, and enhanced patient comfort and satisfaction.

Furthermore, the integration of stretch and non-stretch hernioplasty techniques allows for a tailored approach to hernia repair, accommodating the diverse anatomical and clinical characteristics of patients. By selecting the most appropriate combination of techniques based on individual patient factors, surgeons can optimize surgical outcomes and minimize the risk of hernia recurrence.

Moving forward, continued research, innovation, and refinement of combined hernioplasty strategies will further advance the field, ultimately benefiting patients through improved surgical efficacy and long-term outcomes. By embracing the principles of integration and synergy, surgeons can continue to evolve and enhance hernia repair techniques, ensuring the delivery of optimal care to patients with hernia pathology.

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