Editorial

Potential pharmacotherapy for Zinner syndrome

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Zinner syndrome is an uncommon congenital deformity that manifests as a combination of three distinct abnormalities: unilateral renal aplasia, ipsilateral ejaculatory duct obstruction (EDO), and seminal vesicle cysts. The symptoms include ejaculatory pain, painful urination, urinary difficulties, and recurrent urinary tract infections. The syndrome is usually diagnosed using imaging studies such as magnetic resonance imaging and ultrasonography (1,2). These imaging studies are essential for the identification of the underlying disease responsible for the clinical manifestations and determination of its specific internal presentation. Although the number of cases of Zinner syndrome reported in the literature is now in excess of two hundred, it remains a rare condition.

A recent systematic review found surgical intervention to be the most frequently employed treatment modality for Zinner syndrome (3). The specific surgical procedure performed is determined by the unique clinical and physiological characteristics of each case. The primary objectives of surgery are to address the seminal vesicle cysts and the EDO. This may require either the complete removal of the seminal vesicle or reconstruction of the ejaculatory duct, with excision of the obstruction. Studies have described the use of vesiculectomy with open, laparoscopic, and robot-assisted approaches for cyst removal in Zinner syndrome patients (3). Less invasive methods such as transurethral resection of the ejaculatory duct (TUR-ED) to address the obstruction (4,5), transurethral unroofing of the cyst, and seminal vesicle aspiration (6), have also been documented as alternative treatment options (3).

Given the anatomical abnormalities of Zinner syndrome, treatments aimed only at symptomatic relief, such as the use of antibiotics and painkillers, are limited in their effectiveness. However, a fascinating recent case report by Uetani *et al.* has described the successful pharmacological treatment of pain during ejaculation in a patient with Zinner syndrome (7). The authors describe marked improvements in their patient's clinical symptoms, including ejaculatory pain and pelvic discomfort, as a result of treatment with silodosin, an alpha-blocker medication. Alpha-blockers relax the prostate by reducing the effects of sympathetic nervous system activity on the prostatic smooth muscle, thereby alleviating the dysuria associated with benign prostatic hyperplasia. They are also occasionally utilized in the management of chronic prostatitis and have been proven efficacious for symptomatic relief (8). Previous studies have shown that alpha-blockers also relax the smooth muscle of the seminal vesicle wall, thereby inhibiting seminal contraction and causing loss of seminal emission (9,10). Thus, in the case reported by Uetani *et al.*, it would be plausible that the alleviation of symptoms resulted from the suppression of prostatitis-related manifestations rather than the drug directly affecting seminal vesicle dilation. However, imaging studies of the patient showed a reduction in seminal vesicle dilation following treatment with silodosin (7). Although the exact causal relationship

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between alpha-blockers and the observed reduction in seminal vesicle dilation requires further investigation, the treatment holds promise as a therapeutic alternative that might be considered before more invasive interventions.

While the current evidence supporting pharmacotherapy for Zinner syndrome is limited, it may nevertheless serve as a viable option for the alleviation of symptoms associated with chronic prostatitis. However, if a patient declines pharmacological treatment, it is imperative to promptly proceed with surgical intervention such as TUR-ED if the condition is to be effectively managed. Timely decisions and appropriate interventions are paramount to achieving the best possible outcomes for patients with Zinner syndrome.

To optimize prognoses in patients with Zinner syndrome, medical professionals should consider not only the potential benefits of pharmacological interventions but also the utility of a multidisciplinary approach. Given the complex nature of this condition, collaboration between urologists, radiologists, and other specialists is necessary for the provision of comprehensive care. Regular follow-up visits and imaging studies are also essential as any progression of the condition must be carefully monitored and the effectiveness of the chosen treatment strategy regularly evaluated.

The overall prognosis for individuals with Zinner syndrome can depend on several factors, including the severity of the anatomical abnormalities, the occurrence of complications, and the promptness of treatment initiation. Early detection and intervention are crucial to the prevention or minimization of complications and the improvement of long-term outcomes.

To further advance our understanding of Zinner syndrome, large-scale studies and clinical trials are needed to investigate the optimal treatment modalities and their long-term effects. Promoting awareness among healthcare professionals of this rare condition and its recognition and management is also essential.

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