

Early Postoperative Urinal Retention After Whitehead's Hemorrhoidectomy

Tsankov TS*, Daleva E and Petrova G

Department of Surgery, Surgical Ward -2, V-th Multiprofile Hospital for Active Treatment, Sofia, Bulgaria

*Corresponding author:

Tsankov TS,
Department of Surgery, Surgical Ward -2,
V-th Multiprofile Hospital for Active Treatment,
Sofia, Bulgaria,
E-mail: ttsankov@mail.bg

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1. Summary

Postoperative bladder dysfunction is a common complication in surgery.

Early urinal retention can be caused by the spinal anesthesia, as well as the type of intervention performed.

1.1. Methods: 150 patients were put under surveillance for 2 years in Surgical ward 2 of the V-th Multiprofile Hospital for Active Treatment. They were divided into two groups. Each group consisted of 75 patients. The first group consisted of patients who underwent Whitehead's hemorrhoidectomy and the other - patients with hernioplasty.

1.2. Conclusion: Based on our clinical experience, medical literature data review and retrospective follow-up of the patients, operated a modo Whitehead's hemorrhoidectomy compared to the group of patients with hernioplasty, we can conclude that the early postoperative urine retention is caused not only by spinal anesthesia, but also by operative trauma of the neural plexus in the perineal region.

Postoperative bladder dysfunction is a common complication of elective surgery. Urinary retention occurs after spinal anesthesia due to temporary spinal shock as a result of anesthesia. According to literature data, urinary retention occurs in 20 to 35% after spinal anesthesia. / 1 / Early urinary retention can be caused by anesthesia as well as the type of intervention performed. It occurs most often as a result of surgical treatment of anorectal benign diseases, which is most likely associated with surgical trauma of the pelvic

floor nerves around the bladder, induced by pain and spasm of the external and internal urethral sphincter.

2. Materials and Methods

150 patients were put under surveillance for 2 years in Surgical ward 2 of the V-th Multiprofile Hospital for Active Treatment, Sofia. They were divided into two groups. Each group consisted of 75 patients. The first group consisted of patients who underwent Whitehead's hemorrhoidectomy and the other - patients with hernioplasty [1].

The aim of the study was to confirm the connection of early postoperative urinary retention with tissue damage in the perineal region in the surgical treatment of hemorrhoidal disease using Whitehead's method.

Early urinary dysfunction is relatively common after spinal anesthesia (Table 1, 2 & 3).

Table 1: Distribution of patients by age and operative procedures

Type of Operation	20-30	31-40	41-50	51-60	61-70	71-80	Total
Hemorrhoidectomy	2	5	21	29	8	6	75
Hernioplasty	4	6	20	18	9	9	75

Table 2: Percentage and total number of diagnosed early postoperative bladder retention

Surgical procedures	Whitehead's hemorrhoidectomy	Hernioplasty
% urinary dysfunction	45.30%	13.30%
Total number of patients with urinary dysfunction	34	10

Table 3: Diagnosed early postoperative bladder retention by age

Age	30-40	41-50	51-60	61-70	71-80	Total
Whitehead's hemorrhoidectomy	5	7	7	7	8	34
Hernioplasty	1	2	2	2	3	10

The bladder is innervated by sympathetic and parasympathetic nerve fibers passing through the hypogastric and vesical plexus. The prenodal sympathetic nerves are located in the first and second lumbar segments of the spinal cord, and the prenodal sympathetic fibers extend from the 2,3,4 sacral segment.

The sphincter of the urethra is innervated by the pudendus nerve [2].

The innervation of the smooth muscle fibers of the internal anal sphincter is from the autonomic nervous system - sympathetic fibers coming from the 2, 3 lumbar segment and parasympathetic from the 2,3,4 sacral segment are part of the pelvic plexus. The innervation of the striated muscles of the external anal sphincter is performed by the pudendus nerve [3].

3. Discussion

Spinal anesthesia causes a type of spinal shock. The detrusor vesical muscle and the urethral sphincter muscle are relaxed, while the vesical sphincter muscle is contracted. A state of bladder atony is observed.

The micturition reflex cannot be performed physiologically, because the afferent impulses do not reach the 2,3,4 sacral segment and efferent nerve stimulation does not take place. The bladder fills up with a large amount of urine without being able to released it through the urethra.

Spinal shock in spinal cord lesions lasts from several days to several weeks, while the spinal shock in spinal anesthesia lasts from 6 to 12 hours.

In the surgical cases we followed with spinal anesthesia, it was found that the need for urethral catheter placement is higher in Whitehead hemorrhoidectomies and lower in hernioplasty. There was no significant age difference in the occurrence of urinary retention in the observed cases.

This is explained by the fact that hemorrhoidectomy takes place in the perineal region, the anal sphincter is dilatated, the external and internal hemorrhoidal venous plexus of the sphincter muscle is dissected, which greatly affects the nerve conduction in the pelvic plexus. Postoperative tissue edema at the site of surgery is also important.

4. Conclusions

1. Spinal anesthesia leads to the development of temporary spinal shock
2. Surgical interventions in the perineal region, especially hemorrhoidectomies, additionally lead to temporary disruption of the

urinary continence due to the common innervation of the bladder and rectoanal region.

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