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Very long-term follow-up of Indiana Pouches

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Conclusion

During long term-follow-up (median 230 months) 63% of patients with an Indiana Pouches underwent at least 1 surgical revision.

However, the median revision-free survival was 193 months.

This establishes the IP as a durable and resilient option for urinary diversion.

Introduction

The Indiana pouch (IP) is a heterotopic, continent, urinary diversion involving an ileocolonic segment. It was primarily utilized as an option for patients undergoing radical cystectomy due to bladder carcinoma since its inception in the 1980s. Numerous studies have investigated its long-term outcomes, albeit none extending beyond a 5-year follow-up period. Furthermore, IPs are also used as urinary diversion for non-oncological indications. Patients with this indication are often younger and hence the IP will have an extended lifespan. Consequently, there is a need for very long-term (>5 years) IP outcome data and comprehensive complication analysis.

Materials and methods

In this retrospective cohort study the data of all patients who received an IP and subsequent surveillance at our academic functional urology tertiary referral center between 2015 and 2022 were analyzed. The primary objective was to identify the incidence rates of various complications associated with IP, including stomal stenosis, ureter-pouch stenosis, pouch calculi, stomal leakage, pouch perforation, and parastomal herniation, and to determine the time since surgery at which they occurred.

Results

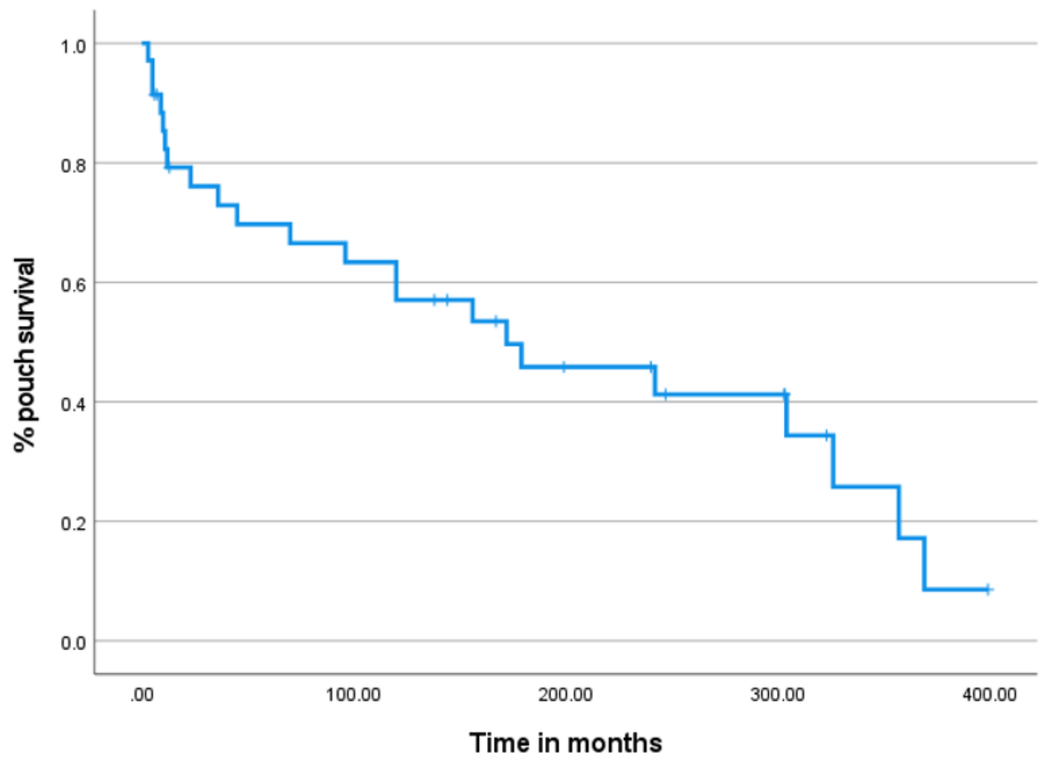
A cohort of 35 patients (24 female) was analyzed. Median age at IP creation was 38 (range 5-62) years. Median follow-up was 230 months (Range 6-424 months). Thirty patients received an IP for non-oncological indications. During follow-up, 22 (63%) patients, underwent at least 1 surgical revision. In total, 46 revision procedures were performed. The estimated median revision-free survival was 193 (95%-CI 141-245) months.

Follow-up duration in months	n
< 60	5
60-120	1
120-180	3
180-240	7
> 240	19

Baseline Characteristics and Indications for Surgery in Patients with Indiana Pouch	n (%)
Total	35
Gender	
Female	24 (69)
Male	11 (31)
Median age in years (range)	38 (5-62)
Median follow-up in months (range)	230 (6-424)
Concomitant cystectomy	12 (34)
Indication for pouch creation	
Neurogenic lower urinary tract dysfunction	8 (23)
Spina Bifida	2 (6)
Spinal cord injury	6 (17)
Interstitial cystitis / bladder pain syndrome	8 (23)
Bladder exstrophy	7 (20)
Refractory urinary incontinence	6 (17)
Gynaecological malignancy	3 (9)
Urothelial cancer of the bladder	2 (6)
Recurrent urinary tract infections	1 (3)

Complications requiring surgical revision (intervention)	n patients (%)	Revisions
Ureter-pouch anastomosis stenosis (endoscopic procedure)	5 (14)	5
Ureter-pouch anastomosis stenosis (open procedure)	6 (17)	7
Stomal stenosis (open procedure)	6 (17)	9
Stoma leakage (open procedure)	6 (17)	9
Pouch calculi (endoscopic procedure)	1 (3)	1
Pouch calculi (open procedure)	6 (17)	6
Recurrent urinary tract infections (conversion to ileal conduit)	13 (37)	2
Parastomal herniation	1 (3)	2
Pouch perforation	2 (6)	3
Nephrectomy for afunctional kidney (not caused by obstruction)	2 (6)	2
Other complications		
Vitamin B12 deficit requiring suppletion	6 (17)	
Bicarbonate deficit requiring suppletion	5 (14)	
Upper tract calculi	6 (17)	
Renal function (eGFR) decline > 10ml/min	7 (20)	

Indiana Pouch Survival without Surgical Revision



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