INTRODUCTION

Posterior urethral valve (PUV) is a very common cause of lower urinary tract obstruction in male infants and the most common congenital cause of bilateral renal obstruction.[3] Endoscopic management is the accepted form of treatment for PUVs.[3] The holmium laser has been in clinical use for many decades, but has been used only sporadically for ablating PUV.[1,2]

The disease which has an incidence of 1:5000–1:8000 male births is the leading cause of bladder outlet obstruction and renal insufficiency in male children.[1,2] Fetal lower urinary tract obstruction affects about 1 per 5000 live births; about 90% of the affected infant is male. Its presentation depends on the degree of urinary obstruction which is determined by the severity and orientation of the valves.[2,9] The clinical features of the disease include poor stream and dribbling of urine after birth. Older children may present with urinary incontinence. The affected patients may also present with complications of the disease such as urinary tract infections, sepsis, impaired renal function, anemia, and failure to thrive.[9]

An antenatal ultrasound scan can make a diagnosis, however, diagnosis is usually confirmed in our center by micturating cystourethrogram (MCU), where classical ballooned or dilated posterior urethra is seen.[4-9]

The standard management of the condition is endoscopic valve ablation, this leads to the establishment of a satisfactory urine stream in most cases; however, patients need to be on long-term follow-up for assessment of renal and bladder function.[11] The study retrospectively evaluates the cases of PUVs seen in our unit over a 5-year period.
Aim
The aim of this study is to establish our experience using a holmium laser in a single center.

PATIENTS AND METHODS
This study was a prospective study of endoscopic PUV treatments carried out in Colworths Medical Centre between November 2015 and April 2019. Information obtained include age, diagnosis, procedure, duration of surgery, and complications and were analyzed. All operations were done with the patient under general anesthesia. Holmium laser surgery for PUV using a 550 quartz bare fiber through the catheter channel of an 8.5”F cystoscope. The laser power and total energy delivered ranged from 20 to 50 W and 50 to 1085 J, respectively.

RESULTS
During the period of study, 25 babies with age range of 10 months–5 years who were diagnosed with PUV following clinical and radiological evaluations had the endoscopic valve treatment using the holmium laser to incise the valve at 5 and 7 o’clock positions. All the patients had a pre-operative cystoscopy check. Twenty-four patients had a good stream at the immediate post-operative period and the disappearance of the valve after MCU.

One baby had a recurrence and needed a second surgery resulting in good urinary stream with post-operative MCU showing complete disappearance of the valve.

DISCUSSION
PUVs remain a significant cause of bladder outlet obstruction and renal insufficiency in male children.1-3

The treatment of PUVs has evolved over the years from the days of open transvesical excision through perineal urethrotomy and excision, the use of various hooks under fluoroscopy or blindly, and cystoscopic excision through the suprapubic approach to the modern endoscopic fulguration of valves using electrocautery or Nd:YAG laser.4-7

Early diagnosis and treatment improve surgical outcomes. In our setting, the use of the holmium laser has effectively reduced the time of valve ablation and improved the outcome, as evidenced by good stream after laser treatment. Ablation of the valves was carried out on the 5 and 7 o’clock positions with a silicone urethral catheter size 8Fr retained for a week with a satisfactory post-operative cystourethrogram, however, we had a recurrence for a patient and the procedure was repeated.8-10

There are other surgical treatment options which include incision of the valves using an electrocaagulation (fulguration), however, this is not recommended in infants due to the risk of urethral strictures, which has not been observed using laser.11-12 Mohan’s urethral valvotomy is the use of a Foley catheter to blindly destroy the valves with a higher incidence of urethral complications and recurrence.1-4

CONCLUSION
Endoscopic posterior valve ablation using a holmium laser is a safe procedure and is regularly performed in Port Harcourt, Nigeria, with satisfactory results.

REFERENCES
10. Orumuah AJ, Oduagbon OE. Presentation, management, and outcome of posterior urethral valves in a Nigerian