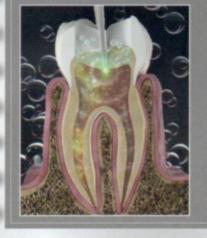
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# CASE REPORT: Male Laser Circumcision using 2940 nm Er:YAG Laser

Ago Harlim!, Anze Zorman! 'JMB chair, Jakaria, Indoesia 'Fatsan do.a., Lyahiren, Thumia

# ABSTRACT

Male circumcision consists of the surgical removal of some or all of the foreskin (or prepuer) from the penis. It is a very common procedure around the world, with a high degree of prevalence variability. Evaluation of the current evidence indicates that the health benefits of male circumcision outweigh the risks. There are many different techniques for performing circumcision. We started using EnYAG (2940 nm) laser in our clinic because we can achieve shorter downtime and fewer complications. Here we present a case of a 23-year-old male that underwent EnYAG laser circumcision without any adverse effects.

Key words: Er:YAG, short/reduced downtime, male circumcision.

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# I. INTRODUCTION

Male circumcision is the surgical removal of the foreskin (prepuce) from the penis. The word 'circumcision' comes from the Latin answedow, meaning 'to cut around' [1]. Infant mole circumcision dates back more than 6000 years as indicated in phantonic drawings and circumcised Egyptian mammies [2]. Some historians even suggest that the procedure started some 15,000 years ago [3]. Recent findings suggest a global male circumcision prevalence of 37,7%, varying from country to country significantly. The prevalence of male circumcision in the United States is around 71%, compared to 15% in France, around 92% in Indonesia, and 26% in Australia. In the UK 200% of men are circumeised [4]. Therapeutic circumcision represents only 2.5% of neonatal circumcisions, which are performed for patients with inflammation in the foreskin, such as phimosis, balanitis, and localized diseases of the foresten-[5]. The benefits of male circumcision include a reduced risk of unitary tract infections in childhood, a reduced risk of ulcentive sexually transmitted diseases in adulthood, protection against penile cancer, a reduced

risk of cervical cancer in female sex parmers, and prevention of balanitis, poethitis, phimosis and paraphimosis [6].

There are many techniques for performing circumcision. In recent years, circumcision procedures using auxiliary devices have become popular [7, 8]. However, the use of these devices increases the recovery time [9]. Besides scalpels, electrocautery and NelYAG or CO<sub>2</sub> lasers are also frequently used in circumcision for skin and mucosal excisions [10, 11, 12]. In this case report we present the use of the EnYAG (2940 nm) had for circumcision with the aim to reduce downtime.

# II. CASE

A healthy 23-years old male patient presented to our office in Jakarta, Indonesia and wanted to undergo creameiston to achieve better personal hygiene. He reported no significant past medical history and was not using any routine medications. The surgical area was cleaned and sterilized. We used doned pende nerve block anesthesia with Idocaine HCl (20 mg/ml) combined with epinephrine (0.0125 mg/ml). We used about 3 ml.

The method of circumcision used was similar to the manual guillotine technique, but instead of a scalpel that Er.YAG laser (2940 nm) was used (SP Dynamis, Fotona, Slovenia). Using the R08 handpiece with a pulse duration of MSP (100 us), 50 Hz and 140 ml, see could remove the preputial skin with minimal surrounding tissue damage. For the more vascularized parts we used the R08 with a pulse duration of LP (60) us), 20 Hz and 180 to 200 ml, which cuts and coagulates at the same time. Afterwards, simple lines sutures (Vierd 3.0) with interrupted stitches were plant. where needed. Post-treatment care consisted of antibiotic ointment (OsogentaE) dressing for 5 days. After 5 days, only continent was suggested. The patient also received and antibiotic (cefadroxil) 500 mg BID. We also recommended that the patient clean the area with sterile saline, as tap water in Indonesia is often contaminated with bacteria. Removal of the sutures was not necessary because we used absorbable materials. although we sometimes cut the rest of the sutures for patient comfort about 10-14 days after surgers. The

recovery period lasted for about 7 to 10 days, however, the perion could return to his normal daily routine 2 days after the operation.

Fig.L Details of the ErrYAG circumcision procedure 4), b) and 4) phases of catting the foreskin using the B08 handpiece and guillotine method, d) detached foreskin immediately after the laser intervention.

# III. DISCUSSION

Circumcision methods can be classified into one of three types or combinations thereof: doesal slit, shield and clamp, and excision [13, 14]. Many of the methods in use today fall into one of these major classes and each of them has its advantages and denumeks [9,15]. Newer methods involving decreocasters, CO2 and Nd:YAG laser are used to achieve hemostasis, therefore eliminating the need for suraring after circumcision 110. 11, 12]. However, the use of cautery has been shown to cause electrical burns [16], Both NdYAG and CO2 have been shown to cause a relatively large area of thermal damage surrounding the incision [17]. We have previously used a CO2 laser for circumcisions and the healing time was longer (10 to 14 days for CO; compared to 7 to 10 days for EnYAG). We have also observed less hematoma, inflammation and practically no necrotic tissue due to the cold ablation of the 2940 nm laser compared to 10000 nm. The only deawhack of the EnYAG laser was the need for a few summes of the bigger blood vessels in adult patients. In smaller blood vessels, however, it is possible to use a longer EnYAG LP pulse duration (600 us) to stop bleading.



Fig. 2. Result of Er:YAG laser circumcision (3 days after the procedure)

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# CASE REPORT: Male Laser Circumcision using 2940 nm Er:YAG Laser

# Ago Harlim<sup>1</sup>, Anze Zorman<sup>2</sup>

<sup>1</sup>JMB clinic, Jakarta, Indonesia <sup>2</sup>Fotona d.o.o., Ljubljana, Slovenia

# **ABSTRACT**

Male circumcision consists of the surgical removal of some or all of the foreskin (or prepuce) from the penis. It is a very common procedure around the world, with a high degree of prevalence variability. Evaluation of the current evidence indicates that the health benefits of male circumcision outweigh the risks. There are many different techniques for performing circumcision. We started using Er:YAG (2940 nm) laser in our clinic because we can achieve shorter downtime and fewer complications. Here we present a case of a 23-year-old male that underwent Er:YAG laser circumcision without any adverse effects.

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Fig. 2. Result of Er:YAG laser circumcision (5 days after the procedure)

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Ago Harlim, Anze Zorman

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