

CASE STUDY

CIRCUMCISION

TABLE OF CONTENTS

Disease Overview.....	1
Client's Profile.....	1
Pathophysiology.....	1
How Is It Diagnosed.....	2
Signs & Symptoms.....	2
Laboratory Procedure.....	3
Date/Time Admitted & Discharged.....	4
History of Illness.....	5
Types of Surgery.....	5
History of the Case.....	5
Health Teachings.....	6
Anesthesia Taken.....	8
Course of Disease.....	8
Drug Study (Post-Operative).....	9
Nursing Care Plan (Post-Operative).....	11
References.....	12

Disease Overview

Phimosis is a condition where the foreskin is too tight to be pulled back over the head of the penis (glans).

Phimosis is normal in babies and toddlers, but in older children it may be the result of a skin condition that has caused scarring. It is not usually a problem unless it causes symptoms.

Immediate treatment is needed in cases where phimosis causes problems such as difficulty urinating.

Client's Profile

Name of the Patient: Client D

Age: 18 years old

Gender: Male

Address: Purok Narra, Brgy. Paltic, Dingalan, Aurora

Height: 5'6

Weight: 55kg

Civil Status: Single

Religion: Roman Catholic

Nationality: Filipino

Occupation: Student

Patient D, an uncircumcised 18 years old student who experienced pain and discomfort due to phimosis was scheduled for circumcision. He wasn't diagnosed with any medical conditions before regarding his genital area until his glans shows painful swelling because of bacterial infection.

Pathophysiology

The foreskin cannot be retracted proximally over the glans penis.

In physiologic phimosis, the preputial orifice is unscarred and healthy appearing. In pathologic phimosis, a contracted white fibrous ring may be visible around the preputial orifice.

The foreskin is retracted behind the glans penis and cannot be replaced to its normal position. The foreskin forms a tight, constricting ring around the glans. Flaccidity of the penile shaft

proximal to the area of paraphimosis is seen (unless there is accompanying balanoposthitis or infection of the penis).

With time, the glans becomes increasingly erythematous and edematous. The glans penis is initially its normal pink hue and soft to palpation. As necrosis develops, the color changes to blue or black and the glans becomes firm to palpation with time, impairment of venous and lymphatic flow to the glans leads to venous engorgement and worsening swelling. As the swelling progresses, arterial supply is compromised, leading to penile infarction necrosis, gangrene, and eventually, autoamputation.

How is it Diagnosed?

Diagnosis of phimosis is primarily clinical and no laboratory tests or imaging studies are required. These may be required for associated urinary tract infections or skin infections. Treating physician should be able to distinguish developmental non-retractability from pathological phimosis. Grading of severity of phimosis should be done. Determination of etiology of phimosis, if possible, should be tried.

Other tests might be suggested in specific conditions. Examples are urine test and general blood test to exclude infection and to test for the presence of glucose (sugar). A swab from the foreskin area to check bacterial culture might also be taken.

Signs & Symptoms

In both conditions, your foreskin will be stuck in one place, either over the tip of the penis or behind. With phimosis, you might also have the following signs:

- In the bathroom. Your foreskin will expand when you pee, like a balloon. It can be painful. You might see blood in the stream or in the toilet. The stream might seem weaker than normal.
- Infections. You may get urinary tract infections. Symptoms include blood in your urine, pain or burning when you pee, the urge to go even when your bladder is empty, and pain or pressure in your lower abdomen or back.
- Foreskin pain. You notice that your foreskin hurts. It might have discharge, too.
- White ring. The opening of your foreskin has a white ring that looks like scar tissue.
- You may have painful swelling in the head of your penis or in the whole organ.

Laboratory Procedure

Urine tests to check for urinary tract infections

A urinalysis is a group of physical, chemical, and microscopic tests. The tests detect and/or measure several substances in the urine, such as byproducts of normal and abnormal metabolism, cells, cellular fragments, and bacteria.

A complete urinalysis consists of three distinct testing phases:

Visual examination, which evaluates the urine's color and clarity.

Chemical examination, which tests chemically for about 9 substances that provide valuable information about health and disease and determines the concentration of the urine.

Microscopic examination, which identifies and counts the type of cells, casts, crystals, and other components such as bacteria and mucus that can be present in urine.

Test	Usual Range	Indicators of Infection	Accuracy
Bacteria	Absent	Any amount	Low sensitivity, ^a high specificity ^b
Leukocyte esterase	Absent	Positive = pyuria, presence of WBCs in urine	High sensitivity, low specificity
WBC	<5	Pyuria: WBC >10	High sensitivity, low specificity
Nitrite	Absent	Positive = presence of bacteria that reduce nitrate	Low sensitivity, high specificity
RBC	<5	Hematuria common in infection	Low sensitivity, high specificity
Epithelial cells	<5	<5 = good urine sample	High epithelial cells indicate contamination with skin flora
pH	4.5-8	pH ↑ if urea-splitting organism (e.g., <i>Proteus mirabilis</i>) is present	Low specificity (there are many other causes of alkaline urine)

^a Sensitivity = likelihood of positive test when disease is present.
^b Specificity = likelihood of negative test when disease is not present.
Source: Reference 1.

Swab tests to check the foreskin for bacteria.

A urethral discharge culture is used to identify infections in your urethra or genital tract, specifically for men and male children. This culture is also called a culture of urethral discharge, or a genital exudate culture.

The culture tests for any bacterial or fungal organisms present in your urethra.

Blood and/or urine test to measure the blood sugar levels in your body. Phimosis is a risk factor for type 2 diabetes.

Phimosis is caused by an infection and high blood sugar levels as a result of diabetes may provide a breeding ground for infection.

Table 1 Blood Sugar Levels Chart

Blood Sugar Levels	Fasting Values	Post Meal Value: 2 hrs after the Meal
Normal	70 - 100 mg/dL	Less than 140 mg/dL
Early Diabetes	101 - 126 mg/dL	140 - 200 mg/dL
Diabetes	More than 126 mg/dL	More than 200 mg/dL

Table 2 Normal sugar levels chart during various times of the day

Time	Blood Sugar Level (mg/dl)
After Waking Up	80 - 120
Just Before Meals	80 - 120
About 2 Hours After Meals	< 160
Before Sleeping	100 - 140

Date & Time Admitted and Discharged

Patient D, an uncircumcised male 18 years of age, is admitted in the hospital on July 17, 2021 at the time of 2:30 in the afternoon due to painful swelling of the head of the penis. After the admission, the urologist performed male genitalia exam. After the examination, the patient was diagnosed with phimosis. The urologist scheduled circumcision surgery within that day. The whole procedure takes 1 hour and 30 minutes from pre-operative to post-operative assessment. The patient was discharged on the same day at time of 5:00 in the afternoon.

History of Illness

The patient stated that he experienced sharp pain in the head of his penis when he is peeing. When questioned, the patient states that his pain is 5 on a scale of 10. According to the patient, when he was in the bathroom taking a pee he suddenly experience pain and it gets worse when the urine stays on the foreskin.

Types of Surgery (Operation Performed)

Surgery for phimosis is usually described as circumcision. A full circumcision involves removing all of the foreskin. It is also possible to remove only the tight part of the foreskin (partial circumcision) or to keep the foreskin and simply widen it. To do this, surgeons make lengthwise cuts into the tight foreskin in two or three places and then close the cuts by stitching across them.

In partial circumcisions or in procedures that don't remove the foreskin, the remaining foreskin may become tight or stuck to the head of the penis again after some time. This is not the case if all of the foreskin is removed because the head of the penis is then no longer covered by foreskin so phimosis is no longer possible.

The operation is carried out under general anesthetic in children. In adults, it can also be carried out using a local anesthetic to numb the area.

History of the Case

Patient D, an 18 years old student who is living with his parents. He presented to the Emergency Department at PJGMRMC with painful swelling of the glans. After male genitalia examination, the urologist diagnosed him with phimosis and was scheduled for circumcision. After successful procedures, he is now discharged, taking prescribed pain medications and waiting for 1-2 weeks for complete healing of his surgery site.

Health Teachings

- Diet

You may return to your normal diet after surgery. Mild nausea and possibly vomiting may occur in

the first 6-8 hours following surgery. This is usually due to the side effects of anesthesia and will

resolve soon. We suggest clear liquids and a light meal the first evening following surgery.

- Activity

You should remain relatively inactive the first 72 hours following surgery. We do encourage walking

around for a few minutes every two hours to maintain good circulation, but otherwise, no activity.

After three days, you may resume your daily routine but should continue to avoid high-impact

activities such as running, skiing, or boating as well as activities that put direct pressure on the

scrotum such as riding a motorcycle, ATV, or snow machine for a total of 6 weeks after surgery.

Ice packs should be placed on and off the genitals for the first 48-72 hours. Frozen peas or an ice pack

can be frozen, used and re-frozen. Fifteen minutes on and 15 minutes off is the recommended

schedule. Use a thin cloth or towel in between the skin and ice pack to reduce skin irritation. Ice is a

good pain reliever and keeps the swelling down.

- Avoid all forms of sexual activity for four to six weeks after surgery

Erections, in general, should be avoided; however, erections that occur while sleeping cannot be controlled and thus some pain upon waking is normal. In some instances, these erections can cause early disruption of stitches that can result in prolonged healing, i.e. prolonged restrictions. They can also sometimes lead to bleeding.

If bleeding occurs, hold pressure on bleeding site for 10 minutes. Repeat if necessary. If bleeding

does not stop after two rounds of applied pressure, call your doctor.

- Wound

In most cases, your incision will have absorbable sutures that will dissolve within the first two weeks.

Some will fall out even earlier. Expect some redness as the sutures dissolve, but this should occur

only around the sutures. If there is generalized redness, especially with increasing pain or swelling,

let us know. The penis may become 'black and blue' as the blood in the tissues spread. Sometimes this

will extend up to the base of penis and lower abdomen/upper scrotum. The black and blue is

followed by a yellow and brown color. In time, all this coloration will go away.

- Hygiene

You may shower 48 hours after surgery. Tub bathing is restricted for 4 weeks. Gently pull back on the

penile tissue to expose suture line and allow water to hit your abdomen and "run" down to the area.

- Medications

In most cases, you will be sent home with a prescription pain pill. If the pain medication you are sent

home with does not control the pain when being used as directed on bottle, call your doctor. While

taking prescription pain medication, it is recommended you also take a stool softener such as

Docusate Sodium (Colace, Dulcolax) to counteract the constipating effects of the pain medication.

- Problems to Report

1. Fever or 101 degrees Fahrenheit or higher.

2. Moderate or severe swelling under the skin incision or involving the scrotum.

3. Redness of the genital area that appears to be spreading.

4. Drug reactions such as a rash or vomiting. If difficulty breathing occurs, go directly to the ER.

Anesthesia Taken (Type)

For circumcision operations, the most common local anesthetics used for caudal block was bupivacaine.

Course of Disease

Phimosis is a term used to describe the difficulty in retracting the prepuce. The term is Greek in origin, with the literal translation of "muzzling." However, its use interchangeably in several conditions can often lead to the notion of a pathological process where none exists. Often non-retractile foreskin is the presenting complaint of a patient, or their parent/guardian, as such it is best to establish whether the process is physiological or pathological.

- Physiological Phimosis

At birth, the prepuce is non-retractile and remains so for a variable length of time. First appearing in the eighth week of gestation as an epithelial ridge, by 16 weeks of gestation the prepuce is complete and encases the glans. At this stage, the epithelial lining of the glans and prepuce are contiguous, and these preputial adhesions are essentially a normal developmental process. Separation begins proximally by the process of desquamation with small spaces forming, which eventually coalesce to form the preputial sac.

- Pathological Phimosis

The pathological process gives characteristic stenosis scarring and pallor of the preputial opening. It is typically caused by balanitis xerotica obliterans (BXO). BXO is a cicatrizing skin condition histologically identical to lichen sclerosus. It is a chronic skin condition with some evidence suggesting an autoimmune etiology. There has been controversy regarding BXO as a precipitant for penile cancer later in life.

GENERIC NAME	DOSAGE/ ROUTE	CLASSIFICATION	INDICATION	ADVERSE REACTION	NURSING RESPONSIBILITY
<p>Generic Name: Mefenamic Acid</p> <p>Brand Name: Ponstan</p>	<p>Initial 500 mg PO once, THEN</p> <p>250 mg PO q6hr PRN usually not to exceed 7 days</p>	<p>PONSTAN containing mefenamic acid belongs to a group of medicines called Non-Steroidal Anti-Inflammatory Drugs (or NSAIDs). These medicines work by relieving pain and inflammation. Although PONSTAN can relieve the symptoms of pain and inflammation, it will not cure your condition.</p>	<p>As an anti-inflammatory analgesic for the symptomatic relief of rheumatoid arthritis (including Still's Disease), osteoarthritis, and pain including muscular, traumatic and dental pain, headaches of most aetiology, post-operative and post-partum pain.</p>	<p>The following side effects have been reported by at least 1% of people taking this medication. Many of these side effects can be managed, and some may go away on their own over time.</p> <ul style="list-style-type: none"> • Abdominal pain • Constipation • Decreased or loss of appetite • Diarrhea • Dizziness • Drowsiness • Gas • Headache • Heartburn • Lightheadedness • Nausea • Nervousness • Trouble sleeping • Vomiting 	<p><u>Assessment</u></p> <ul style="list-style-type: none"> • Assess patients who develop severe diarrhea and vomiting for dehydration and electrolyte imbalance. <p><u>Patient & Family Education</u></p> <ul style="list-style-type: none"> • Discontinue drug promptly if diarrhea, dark stools, hematemesis, ecchymoses, epistaxis, or rash occur and do not use again. Contact physician. • Notify physician if persistent GI discomfort, sore throat, fever, or malaise occur. • Do not drive or engage in potentially hazardous activities until response to drug is known. It

					may cause dizziness and drowsiness. • Monitor blood glucose for loss of glycemic control if diabetic.
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NURSING CARE PLAN

ASSESSMENT	NURSING DIANOSIS	PLANNING	INTERVENTION	RATIONALE	EVALUATION
<p>Subjective: “Sumasakit po yung ari ko”, as verbalized by the patient.</p> <p>Objective: • Discomfort • Looks anxious</p> <p>Vital Signs BP- 110/70 PR- 80 bpm RR- 15 cpm</p>	<p>Acute pain related to surgical operation due to bacterial infection.</p>	<p>Short-term Goal: After 1 hour of nursing intervention, the patient will manifest signs of minimized pain and discomfort.</p> <p>Long-term Goal: After 1 hours of nursing intervention, the patient will be knowledgeable about proper genital hygiene.</p>	<p>POST-OPERATIVE</p> <ol style="list-style-type: none"> 1. Apply petroleum jelly and gauze dressing loosely around glans, as appropriate. Leave in place for at least 24 hr. 2. Administer mefenamic acid as indicated. 3. Provide health teachings. 	<p>- protects against adherence to shorts or boxers and direct contact with the surgery site.</p> <p>- it helps ease acute pain, enhances effects of calming behaviors.</p> <p>- it increases the patient knowledge on how to maintain proper genital hygiene to prevent any infections and complications.</p>	<p>After 1 hours of nursing intervention, patient was able to manifest signs of minimized pain and discomfort.</p> <p>The patient is knowledgeable on proper genital hygiene.</p>

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