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AN OBSTRUCTIVE UROPATHY IN PREGNANCY: GYNECOLOGICAL AND OBSTETRIC PERSPECTIVES

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Abstract

Pregnancy-related physiological changes might make women more susceptible to diseases such obstructive uropathy, urinary tract infections and nephrolithiasis, etc. Obstructive uropathy is one of the prevalent conditions observed during pregnancy period. Most frequent cause of obstructive uropathy during pregnancy is ureteral compression by the gravid uterus. Conservative therapy of managing this condition includes uses of antibiotics and intravenous fluids, etc. However, if it doesn't work, urine diversion and antibiotic prophylaxis are required. Similarly magnetic resonance imaging and ultrasonography can be suggested as diagnostic techniques due to their safety and effectiveness in identifying condition like obstructive uropathy. This article highlights gynecological perspectives of Obstructive Uropathy in pregnancy.

Key-Words: *Gynecological, Obstructive Uropathy, Ureteral, Pregnancy*

Introduction

A condition known as obstructive uropathy occurs when the urinary tract malfunctions prevents urine from flowing normally. The obstruction can appear at any age, even during pregnancy and can happen at any level of the urinary tract, such as the ureters, renal pelvis, urethra and bladder. The blockage can be extraluminal, resulting from disorders like strictures, cancers, enlarged uterus, trauma and intraluminal, resulting from scarring, sloughed papillae, urinary stones and blood clots, etc. The obstruction's unilateral or bilateral character depends on where it occurs. Because pregnancy causes special physiological changes and raises concerns about fetal safety, the management of obstructive uropathy during pregnancy is very important clinical perspective [1-4].

Serious complications from obstructive uropathy could lead to irreversible kidney damage and eventually renal failure. Long-term problems including difficulties emptying the bladder or urine incontinence can result from chronic bladder dysfunction, which is caused by obstruction at the bladder level. Additionally, because of inadequate drainage and urine stagnation, obstructive uropathy greatly raises the risk of urinary tract infections. In order to avoid these possibly permanent effects, prompt diagnosis and adequate treatment are crucial.

Renal recovery is greatly impacted by the degree and length of blockage as well as the presence of infection. Many patients experience polyuria following obstruction alleviation, osmotic loss of fluid, urea and nitrogenous wastes occurs during post-obstructive diuresis. Diagnostic measure includes utilization of techniques such as magnetic resonance imaging and ultrasonography, while conservatibe treatment believes on medicines like antibiotics along with uses of intravenous fluids. The major causes, symptoms and treatment protocol of obstructive uropathy are discussed in subsequent sections [4-6].

Causes

When urine cannot adequately pass through the urinary tract it backflows into the kidneys, this condition is known as obstructive uropathy. Either one or both kidneys may be affected by obstructive uropathy, which can manifest as an acute or chronic issue. Bladder stones and kidney stones, etc. are some of the conditions that might cause

this illness. Metastatic malignancies that spread to the urinary tract and cancers of the bladder, colon, cervix and uterus are additional contributing factors. Urinary tract obstruction can also result from neurological problems that disrupt bladder control, bladder prolapse and scar tissue formation inside or outside the ureters or urethra. The condition also occurs during pregnancy period due to the significant physiological modifications inside the body [5-7].

Symptoms

Fever, nausea, vomiting, swelling from kidney enlargement and weight gain, etc. are common symptoms, along with flank pain that can be minor to severe and affect one or both sides. Urinary problems can also include a weak urine stream or difficulty starting to urinate, dribbling, a feeling that the bladder is not completely emptying, nocturia, urinary leakage and decrease in urine volume, etc. also observed along with sensation of burning pain sometimes [6-8].

Diagnosis and Treatment

Imaging tests and interventional techniques are used in the diagnosis and treatment of obstructive uropathy in order to ascertain the obstruction's location and etiology, etc. Common diagnostic methods include CT scans, renal nuclear scans, voiding cystourethrograms, ultrasound, MRI, urodynamic testing to evaluate bladder function, cystoscopy and intravenous pyelograms provides direct visualization of the urinary tract. The underlying reason of the obstruction determines the course of treatment.

A balance between conservative treatment and, if required, interventional techniques are required for the management of obstructive uropathy during pregnancy. Non-invasive methods of initial care usually involve giving analgesics, making sure the patient is properly hydrated, and prescription antibiotics, such as cephalosporins or gentamycin, in the event of a urinary tract infection. To manage nausea and vomiting, antiemetics such promethazine or metoclopramide may be administered [7-9].

Interventional alternatives (**Figure 1**) may be necessary when conservative methods fail or when there is a serious risk to the health of the mother or fetus. These include ureteroscopy, which is especially helpful for managing ureteral stones by seeing and removing or fragmenting them, percutaneous nephrostomy, which drains urine

straight from the kidney, and ureteral stenting, which avoids the obstruction and restores urine flow.

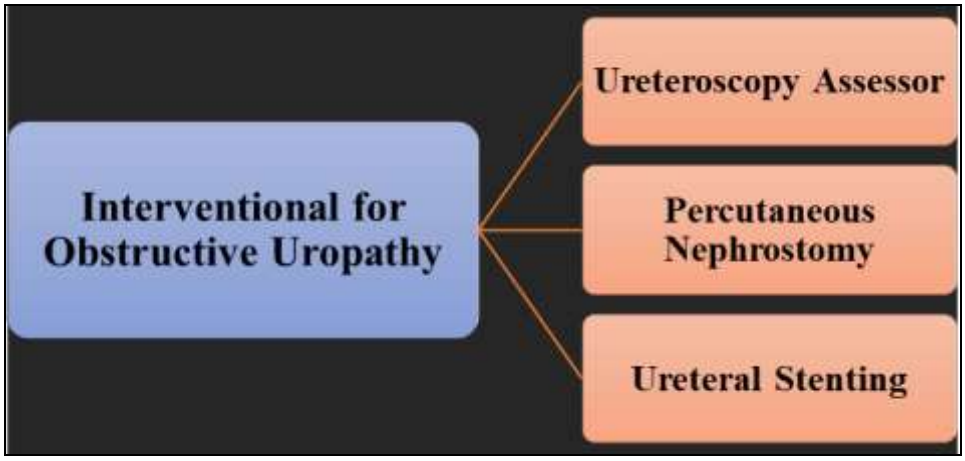

Figure 1: Alternatives interventional for obstructive uropathy

To guarantee thorough care, a multidisciplinary approach comprising obstetricians and urologists is used. All treatment choices must be made with the safety of the mother and fetus in mind. Reducing risk to prevent problems particularly when choosing invasive procedures are the key of safety. If at all possible, avoid prolonged urine drainage, such as using a nephrostomy tube for an extended period of time [8-10].

Pregnancy-related obstructive uropathy necessitates a cautious, customized treatment strategy that puts the health of the mother and fetus first. Conservative methods are usually the first line of management, with interventional techniques being used if needed. These include pain management using acetaminophen. Other approaches are as follows [9-11]:

- ✓ ***Maintain Hydration***: To preserve renal perfusion and stop further blockage, an adequate fluid intake is necessary.
- ✓ ***Pregnancy-safe medications*** such gentamycin or cephalosporins may be recommended when a urinary tract infection (UTI) coexists.
- ✓ **Antiemetics**: Drugs like promethazine or metoclopramide can be used to treat nausea and vomiting

Advantages of medical interventions in obstructive uropathy:

- These techniques help to maintain urine flow from the kidney to the bladder by avoiding the blockage

- Remove blockage and drain urine externally
- Minimally invasive procedure
- Easy observation and removal of stones
- Safe and well-coordinated care

Precaution while applying interventions in obstructive uropathy:

- Participation of urologists, obstetricians, radiologists and anesthetists needed in surgical interventions.
- The risks and advantages for the mother and fetus must be taken into account.
- The safest and least invasive methods should be preferred.
- Unless absolutely necessary, prolonged use of nephrostomy tubes or stents should be avoided.

Conclusion

Despite being relatively rare, urological crises during pregnancy should be promptly recognized and carefully managed because of the possible hazards to the health of the mother as well as fetus. Because it can result in irreparable kidney damage, bladder dysfunction, and an elevated risk of urinary tract infections, obstructive uropathy stands out among them as a serious health issue. Urinary blockage is frequently caused by pregnancy-related physiological changes, including mechanical compression by the gravid uterus. Conservative management which includes fluids, antibiotics and close observation are the first line of treatment. To guarantee efficient urine drainage and symptom relief, interventional treatments like stenting, percutaneous nephrostomy and catheterization could be required if symptoms worsen or continue. Because of their safety profiles, diagnostic modalities such as MRI and ultrasound are recommended during pregnancy, while radiographic or more invasive investigations should be utilized sparingly. To get the best results for mother and fetus, a multidisciplinary strategy comprising obstetricians, urologists, radiologists and nephrologists is necessary.

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