Giant Vesical Calculus Around An Unusual Foreign Body

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Abstract
Bladder stones occasionally develop because of foreign bodies in the bladder. These are usually concretions or small stones formed around foreign bodies which act as nidus. Giant vesical calculus weighing more than 100 g is a rare entity. We present a case of 25 year old female with a giant vesical calculus formed around a hair pin. To the best of our knowledge only one case of giant vesical calculus developing around a foreign body has been described in literature. We report this second case of giant vesical calculus formed around a hair pin.

Introduction
Two types of stones are usually recognized in the bladder, those that appear to have formed in the upper tract and are trapped in the urinary bladder, and those that are formed in the bladder in the presence of various types of outlet obstructions. Rarely bladder stones develop because of foreign bodies in the bladder. The most common foreign bodies to be found in the bladder are surgical sutures and urological material. This type of secondary bladder stones formed around foreign bodies may be composite of struvite and carbonate apatite formed around non-absorbable surgical material in urine with urease producing bacterial infection. Pubmed search of English literature (keywords: giant vesical calculus, foreign body) revealed only one case of giant vesical calculus formed around an arterial graft incorporated into the bladder. This is the second reported case of giant vesical calculus formed around a foreign body and the first case formed around a self inserted hair pin.

Case Report
A 25 year old female presented with complaints of frequency, urgency and burning during micturition on and off since one year. She was married with two children. She had regular menstrual cycles with no history of leucorrhoea. Clinical examination revealed suprapubic tenderness. Her urine analysis showed presence of 50 pus cells per high power field. Urine culture grew E. coli sensitive to norfloxacin. Her X-ray pelvis revealed a giant vesical calculus measuring 9 cms X 6 cms with a hair pin like foreign body within the stone (Fig.1). This was confirmed by ultrasonography (USG). Patient initially denied any self introduction of foreign body, however, later confessed that she had put it 5-6 years back. Her psychiatric evaluation revealed behavioural disorder. Her infection was treated with antibiotics. As it was a giant stone, open suprapubic cystolithotomy was done. The stone after removal was cut and the hair pin was found within it (Fig. 2). The weight of the stone was 145 grams. Post-operative course was uneventful. She was given behavioural therapy. Follow up of six months has shown her to be disease and symptom free.

Discussion
Foreign bodies may find their way into the bladder by accident, deliberate introduction through the urethra or migration from the neighbouring organs. A multitude of foreign bodies in the bladder have been reported in the literature, such as a needle, a bullet, a...
safety pin, an animal feather, pieces of candle, a thermometer, chewing gum, a tooth brush, a metal hook, a scalpel etc. To avoid embarrassment, patients tend to seek treatment late, often waiting until the problem becomes symptomatic.

In the urinary bladder, heterogeneous nucleation occurs around a foreign-body nidus as a result of infection or secondary to obstruction with resulting supersaturation and stone formation.

Usually the patients present with urethritis, cystitis, recurrent urinary tract infection (UTI), or haematuria. Patients with giant vesical calculus may sometimes present with azotaemia or retention of urine. Our patient presented with symptoms of urinary tract infection. X-ray and USG are sufficient to diagnose as in our case. Cystoscopic removal is ideal management of the bladder stones formed around foreign bodies as they are usually small. This involves breaking the stone by litholapexy or intracorporeal lithotripsy together with the removal of the foreign bodies. Large foreign bodies may be removed by suprapubic cystotomy where endoscopic removal is not possible. Electrohydraulic shockwave lithotripsy (EHSWL) should be avoided in large, hard vesical calculi and if the stone is in the diverticulum or stuck to the mucosa. Open surgery has been the best-recommended modality for large stones. Psychiatric evaluation and treatment forms an integral part of management for patients coming with self inserted foreign bodies in the bladder to avoid future recurrence.

**Conclusion**

Patients presenting with recurrent urinary tract infections should be investigated to rule out underlying stone disease. Our case of giant vesical stone formed around a hair pin also reveals that psychiatric evaluation and treatment forms an integral part of management along with surgical treatment.

**References**


**EXENATIDE ONCE WEEKLY IN TYPE 2 DIABETES**

Patients with type 2 diabetes who have not achieved adequate glucose control at the maximum tolerated doses of their oral therapies have had no alternative other than insulin. However, the best insulin regimen is a matter of controversy because addition of biphasic, prandial, or basal insulin to oral therapy has been proposed. Besides the fear of subcutaneous injections, the two main objections raised by the patient (and often also by the physician) are the risk of hypoglycaemia and weight gain.

Exenatide is the first of a new class of compounds, and has similar activity to the naturally occurring hormone glucagon-like peptide 1, improving glycaemic control through glucose-dependent stimulation of insulin secretion. Exenatide 10 µg twice a day might enable patients with type 2 diabetes to improve glycaemic control and reduce or eliminate weight gain and the risk of hypoglycaemia.

Exenatide therapy can be regarded as an alternative to insulin in patients with treatment failure on oral agents. Exenatide 10 µg twice a day.

These investigators showed that long-acting exenatide 2 mg once a week resulted in significantly greater improvements in glycaemic control than did exenatide given twice a day, with no increased risk of hypoglycaemia, lower occurrence of nausea, and similar reductions in bodyweight. Interestingly, such benefits were observed with long-acting exenatide when added to a broad spectrum of glucose-lowering therapies (except insulin).

Indeed, the initial enthusiasm might shift to scepticism when first concerns about effectiveness, safety, or both arise. Many glucose-lowering drugs were withdrawn from the market or their use became controversial despite early positive results.

Exenatide is not yet considered in international consensus guidelines. The updated NICE guideline recommended to offer exenatide only when insulin would otherwise be started, obesity is a specific problem (body-mass index > 35 kg/m²), and the need for a high dose of insulin is likely. When the once-a-week exenatide formulation becomes available, after confirmation and extension of today’s positive results, this new strategy might substantially change the management of type 2 diabetes.