



Penile skin bridge multiple lithiasis, a diagnosis made in a complication of circumcision in a 24 year old young adult: Case report

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ABSTRACT

Penile skin bridge stones are rare complications which has never been reported in literature hence information about management is non-existent. This case reports a 24-year-old man presenting with recurrent inflammatory symptoms in his sizeable penile skin bridge. Clinical examination revealed multiple calculi which was confirmed after surgical division of the SB. Phimosis and stone migration are the pathological basis underlying all reported cases of non-urethral calculi in uncircumcised elderly phallus. Extra-luminal urolithiasis in a young circumcised man, we believe have different predisposing factors and prognosis. Treatment involved stone removal and debridement of the skin bridge which yielded successful outcome.

Introduction

Skin bridge (SB) lithiasis is an unexpected penile glans stone disease with the common documented complications being tethering during penile erection, altered penile cosmesis, pains and trauma during penetrating sexual intercourse in circumcised males.¹ Generally, the few cases of extra-luminal penile calculi reported in literature occurred exclusively in poor elderly uncircumcised adults with severe phimosis and children with complicated neurological or urologic genital abnormalities^{1,2,3}. Male circumcision, a preputial skin excision is done for various reasons including satisfying religious and tribal rites, to minimise the transmission of some sexually acquired diseases, perceived improvement of genital cosmesis⁴ and partly regarded as a preventive measure for preputial or penile glans stone formation.⁵ In parts of the world where trained medical professional services for circumcision is rare, most males are circumcised by religious and tribal leaders or other non-professional individuals as a trade. Protocols for comorbidities screening, patients and device selection, competence level and procedure type choice are often non-existent or not followed by these home circumcisions by non-trained persons. Non-adherences to these consensus guidelines is a risk factor to developing major circumcision complications including infection and skin bridge formation. We report this 24-year-old young adult with a skin bridge post circumcision complicated by extra-luminal calculi formation.

Case presentation

We attended to a 24-year-old male who was referred to our urology outreach clinic in Ve Kolenu with swollen and painful glans penis which started 2 weeks early (Fig. 1). He was treated with oral cloxacillin, metronidazole and acetaminophen at the primary healthcare facility a week prior to presentation with no resolution.

He had a non-device circumcision at home a week after birth by a non-professional without anaesthesia. Post procedure wound care was by application of an unspecified oil and glans penis wrapped it in a piece of cloth daily by the mother till it healed after 2 weeks. He noticed an asymptomatic dorsal penile skin bridge at a tender age. At 17 years, he started experiencing recurrent rashes on the skin bridge sometimes associated with painful swelling which often resolved spontaneously. There was no prior history of lower urinary tract symptoms, loin or flank pains, urethritis, no personal or family history of stone disease and he has never been on any medication or herbal preparations for any chronic illness. They was no history of trauma to the penis, he is single, not sexually active, and had no history of skin lesion or diseases. Physical examination revealed a generally well looking, smartly dressed man. Examination of the external genitalia showed a swollen and oedematous penile glans with about 1/4 of the circumference dorsolaterally covered proximally with a skin bridge (Fig. 1), with no meatal involvement. There were multiple hard nodular lesions, some of which were mobile

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Fig. 1. An attempt to tunnel mosquito artery forceps through a tongue of the oedematous skin bridge that flapped over the corona from the left dorsolateral end under anaesthesia.



Incision of the skin bridge which exposed multiple calculi with some embedded in the fibrous tissues during surgical debridement

Fig. 2. Incision of the skin bridge which exposed multiple calculi with some embedded in the fibrous tissues during surgical debridement.

within the corona under the skin bridge. Full blood count and urinalysis indices were normal. A diagnosis of penile skin bridge lithiasis was made. At surgery under regional anaesthesia with his written and verbal consent, division of the skin bridge exposed the stones with subsequent expulsion (Fig. 2). The finding was 5 calculi, 3 of them free and 2 with margins of the embedded fibrous tissues (Fig. 3). There was no chordee. Debridement and refashioning was done. Histopathology showed no malignancy. He continued with oral antibiotics for 5 days, analgesia for 3 days, alternate daily wound cleaning with 0.9% normal saline and covered with povidone impregnated gauze. He is satisfied with the management outcome.

Discussion

Extraluminal lithiasis of the male penis has been limited to the uncircumcised phallus complicated by severe phimosis in men. Poor phallic hygiene in elderly men or urologic and neurogenic abnormalities in children have been reported as the major risk factors to stone formation in the preputial sac¹ among those individuals. These calculi are believed to precipitate out of infected static urine in a preputial sac, mixed smegma and accumulated lime salt, consolidation around glans penis tumours or migration of stones outside the urethra into the phimotic prepuce^{1,5}. This case demonstrates that preputial skin presence leads to the stone formation on the glans penis in the absence of phimosis as this patient's risk factor was the presence of the skin bridge. It is however a dependent factor considering that this is the first of its kind, and most uncircumcised or skin bridged complicated phallus do not usually develop stones. Further research is therefore required to explain

how multiple calculi are formed in a skin bridge. Haematomas, buried suture knots, foreign materials and smegma left under redundant skin which could have occurred during his home circumcision form a nidus for skin bridge stones formation and growth. Home circumcision like in our case is often done without anaesthesia, recommended surgical instruments and or persons with the requisite skill. This often leads to a difficult and or traumatic procedure requiring ligation of bleeding points. Such circumstances is a predisposition to many surgical knots and haematoma formation, incomplete preputial excision and cleaning of smegma. The suture tracts and aseptic handling of the wound are risk factors for direct microbial inoculation of such haematomas, suture knots and smegma with the potential to establish a biofilm within the redundant preputial skin leading to chronic infection. Intervention by a urologist often gives good and satisfactory results. Even though in the modern era, non device base circumcision is fast disappearing, excision and suture surgery may still be practised in deprived areas lacking resourced health facilities and trained physicians on the use of these devices or in communities that typically adhere to the ritual procedure by tribal elders. This was the case with our patient.

Conclusion

Extraluminal urolithiasis is extremely rare with this case demonstrating that skin bridge, a rare circumcision complication can form lithiasis and noticed at a younger age. Any circumcised male presenting with hard nodular lesions in a skin bridge, extraluminal urolithiasis is a differential.



Five calculi removed with varied dimensions between 0.4cm to 2cm in the widest diameter .

Fig. 3. Five calculi removed with varied dimensions between 0.4cm and 2cm in the widest diameter.

Consent

The patient gave consent for the pictures to be taken for scientific and teaching purposes.

Declaration of competing interest

The is no competing interest.

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