

Urethral Arterial Bleeding from an Iatrogenic Pseudoaneurysm due to Catheterization

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Abstract

A 41-year-old man underwent surgery for treatment of an intervertebral disk hernia and received urethral catheterization at another hospital. After insertion of the catheter, intermittent urethral bleeding occurred. He was brought to our hospital by ambulance because of massive urethral bleeding and urethral pain on the day after the operation. Laboratory tests showed a decrease of hemoglobin, and contrast computed tomography revealed intense enhancement of part of the urethra that resembled an aneurysm. Urethroscopy showed a pseudoaneurysm in the bulbar urethra and the arterial bleeding was stopped by transurethral coagulation.

Keywords: Urethral injury; Iatrogenic; Pseudoaneurysm

Introduction

While iatrogenic injury is a common complication of urethral catheterization, pain and bleeding are usually successfully controlled by repeat catheterization. In general, the bleeding is venous in origin and it stops spontaneously with conservative management. However, we experienced a case of massive arterial bleeding originating from a pseudoaneurysm of the bulbourethral artery. Here we report this very rare case of iatrogenic urethral aneurysm caused by catheterization.

Case Report

On September 21, 2013, a 41-year-old man was brought to our hospital by ambulance because of massive urethral bleeding. On September 10, he had undergone surgical treatment of an intervertebral disk hernia and urethral catheterization had been done at another hospital. Just after catheterization, bleeding was not observed, but intermittent bleeding was noted subsequently and he complained of urethral pain. At our hospital, contrast CT showed an intensively enhanced part of the urethra that resembled a pseudoaneurysm (Figure 1). After 1.5 hours, his hemoglobin decreased from 14.1 to 12.6 g/dl and his pain became worse, so it was decided to perform emergency surgical treatment. Urethroscopy revealed arterial bleeding from a pseudoaneurysm at the bulbar urethra, and this site matched the findings on enhanced CT (Figure 2). Arterial bleeding was successfully arrested by transurethral coagulation, and he has been well without re-bleeding since the procedure.

Discussion

Urethral injury is not a rare complication of urethral catheterization. In most cases, the bleeding is slight and the injury is superficial, being successfully controlled by repeat catheterization. Unlike sharp injuries, blunt trauma does not usually cause arterial bleeding and conservative treatment can be recommended. In fact, the European Association of Urology (EAU) guideline recommends inserting a catheter as the initial treatment for iatrogenic urethral injury [1]. Considering the local anatomy, arterial bleeding due to iatrogenic urethral injury seems to be a very unlikely event.

As usual, urethral continuity and urinary retention are clinically important problem for the patients with urethral injury. In our case, catheterization was succeeded easily but the massive bleeding from the meatus was not stopped. While retrograde urethrography is important to diagnose urethral injury, it seemed not to be suitable for

identification of the bleeding site. To diagnose the bleeding site, we selected enhanced CT. Enhanced CT was very convenient to diagnose the site of arterial bleeding in a short time and we could check other organs at the same time.

Angiography is the first-line therapy for arterial bleeding as usual. This is important not only for diagnosis but also for emergent treatment. However, in our case, the penile artery was terminal and narrow. Even if the angiography could diagnose the bleeding site, super selective embolization for targeted artery would be difficult. Thus, we chose transurethral coagulation for diagnosis and treatment at first.

Although it was unclear who performed catheterization at the other hospital, there was no urologist at that hospital. Unfortunately, training

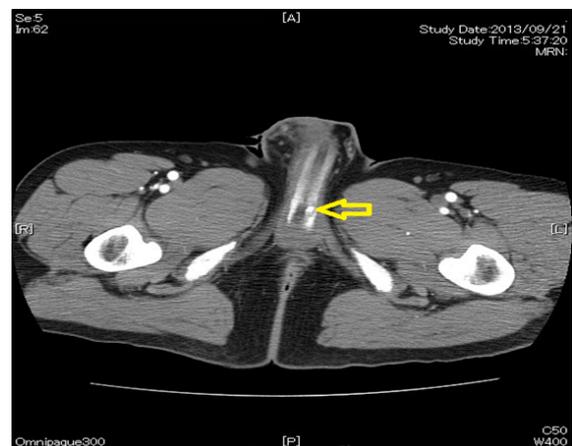


Figure 1: Enhanced CT revealed a suspicion of a pseudoaneurysm on urethra (Arrow).

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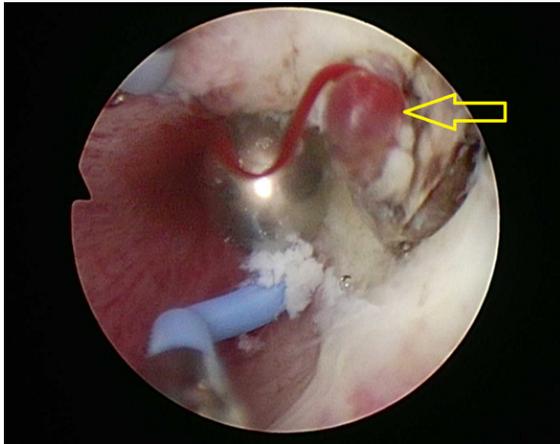


Figure 2: There is a pseudoaneurysm and bleeding of bulbourethra by urethroscopy. (Arrow).

of medical students and interns in urethral catheterization procedures is inadequate [2]. Kashefi et al. reported that proper education with regard to catheter insertion decreases the number of injuries [3]. All medical staff should master the skill of urethral catheter insertion and study the potential complications in order to avoid injuries and manage any problems that arise.

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