

A Case of Traumatic Inferior Gluteal Artery Aneurysm Treated by Transcatheter Arterial Embolization

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A gluteal artery aneurysm is a rare condition. We successfully treated a 41-year-old man of inferior gluteal artery aneurysm with arteriovenous fistula after a stab wound. Contrast-enhanced computed tomography performed on the third day revealed a 5 cm diameter mass in the left gluteal region. The angiography two weeks later showed a pseudoaneurysm and arteriovenous fistula in the left inferior gluteal artery. Transcatheter arterial embolization was performed successfully using six metallic coils. This is the first report of an inferior gluteal artery aneurysm after a stab wound successfully treated by this procedure.

Key words: inferior gluteal artery aneurysm, stab wound, transcatheter arterial embolization

Introduction

A stab injury of the gluteal region can be life-threatening¹⁾. Traumatic gluteal artery aneurysm is a rare complication of trauma²⁾. We successfully treated a case of inferior gluteal artery aneurysm with arteriovenous fistula after a stab wound by transcatheter arterial embolization. This is the first report of an inferior gluteal artery aneurysm after a stab wound successfully treated by this procedure.

Case

A 41-year-old man, a cook, was injured on his left hip by a kitchen knife while fighting his colleague. The length of the knife was 15 cm. He was immediately transferred to our Emergency Department by ambulance. On arrival, he was alert, and his systolic blood pressure was 70 mmHg, pulse rate was 52/min. On physical examination, an approximately 4 cm stab wound was identified on his left hip, and arterial bleeding was obvious. His anus and rectum were not injured. Chest and abdomen revealed no abnormal findings. The wound was sutured with drainage and covered by gauze packing. After he-

mostasis and fluid resuscitation, his systolic blood pressure was up to 120 mmHg. Hemoglobin and hematocrit were still depressed on the second day (8.9 mg/dl and 27.5%, respectively), but blood transfusion was not necessary.

Contrast-enhanced computed tomography performed on the third day revealed a 5 cm diameter mass in the left gluteal region, which stained faintly (Fig. 1). We could not palpate a pulsatile tumor. After two weeks of packing, oozing had continued, so an angiography was performed. The angiography showed a pseudoaneurysm and arteriovenous fistula in the left inferior gluteal artery (Fig. 2). Transcatheter arterial embolization was performed successfully using six metallic coils (Fig. 3). After the embolization, his medical course was uneventful. Computed tomography on the 24th day after embolization confirmed diminished blood feeding of the aneurysm and arteriovenous fistula. On the 26th day, he was discharged. Computed tomography on three months after embolization also showed no recurrence.



Fig. 1 Contrast-enhanced computed tomography performed on the third day revealed a 5 cm diameter mass in the left gluteal region, which stained faintly (arrow).

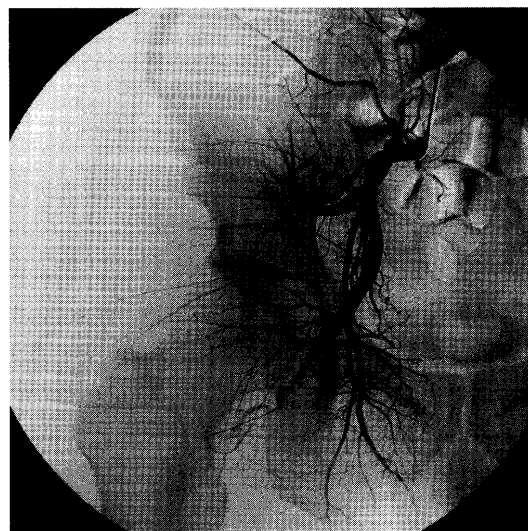


Fig. 3 The angiography after embolization showed diminishing blood flow to the pseudoaneurysm

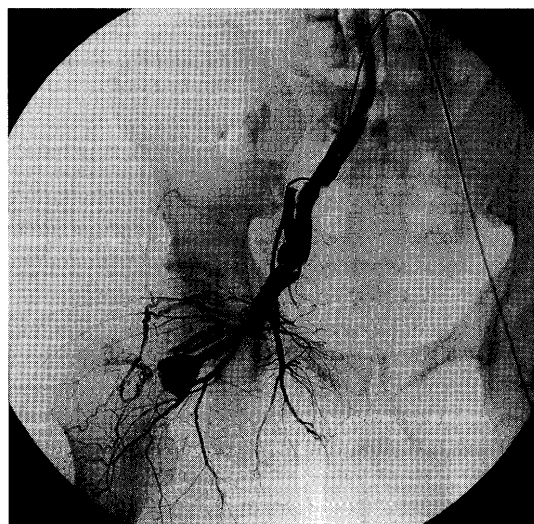


Fig. 2 The angiography two weeks after trauma showed a pseudoaneurysm and arteriovenous fistula in the left inferior gluteal artery

Discussion

A gluteal artery aneurysm, either superior^{3~11)} or inferior^{12~23)}, is a rare condition. It can result from blunt trauma^{4)5)10)16)19)~23)}, gunshot³⁾⁹⁾¹²⁾, stab²⁾¹³⁾¹⁴⁾, infection⁷⁾ or operation⁶⁾¹⁸⁾. Many cases are not diagnosed for weeks, months, or even years after the injury³⁾¹²⁾, and only rare cases are diagnosed within several days after the trauma²⁾⁸⁾. The inferior gluteal artery is more often injured after blunt than penetrating trauma²⁾¹³⁾¹⁴⁾.

Symptoms of a gluteal artery aneurysm are localized swelling, palpable tumor, sometime with pulsa-

tion, and pain¹⁰⁾²⁰⁾. A gluteal artery aneurysm may cause pressure on the sciatic nerve¹⁵⁾. In acute injury, physicians must be aware of possible associated injuries to pelvic or abdominal organs, particularly after penetrating injuries¹⁾²⁾. In our case, there was no associated injury. Diagnosis of a gluteal artery aneurysm is made by angiography¹⁵⁾. In our case, computed tomography showed mass region, which was very useful.

Treatment reported has been surgical, direct exploration, or ligation of the internal iliac artery²⁾³⁾⁵⁾⁹⁾¹⁶⁾. The surgical approach to the gluteal region is sometimes difficult. Recently, other interventional techniques have become popular due to fewer complications and less invasiveness. Six cases of interventional therapy have been reported on the superior gluteal artery^{4)6)~8)10)11)}. Five cases were successful, and one case required surgery after embolization because of no improvement¹¹⁾. On the other hand, ten cases of treatment with embolization have been reported on the inferior gluteal artery^{12)13)15)18)~23)}. However, three cases required surgery after embolization, including one stab injury¹²⁾¹³⁾²⁰⁾. There have been no reports of an inferior gluteal artery aneurysm with arteriovenous fistula after a stab wound treated successfully by transcatheter arterial embolization. Holland et al¹³⁾ reported a case three months after a stab wound

treated by embolization, but the aneurysm remained, and surgery was required. They concluded that the embolization was unsuccessful due to the size of the aneurysm and the extensive collateral vessels. Yamamoto et al²⁰ reported a gluteal artery aneurysm with arteriovenous fistula three months after blunt injury that was treated surgically twice, and once with transcatheter arterial embolization, but bleeding continued. Arterial ligation was finally done, but a disturbance of function remained.

The pelvic arterial collateral circulation is abundant, but muscle necrosis of the gluteal region can occur⁸. In our case, the medical course was uneventful.

The management of stab injuries of the gluteal region must include consideration of the potential of injury of the gluteal artery. Close collaboration with interventional radiology facilities is important.

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経カテーテル塞栓術にて治療した外傷性下腎動脈瘤の1例

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仁科	雅良	・武田	宗和	・寺田	尚弘
イシカワ	マサタケ	イナガキ	ノブヒロ	ナミキ	
石川	雅健	・稲垣	伸洋	・並木	みずほ
マチダ	ハルヒコ	クワツル	リョウヘイ	スズキ	タダシ
町田	治彦*	・桑鶴	良平*	・鈴木	忠

外傷性下腎動脈瘤はまれな病態である。我々は41歳、男性が刺創により受傷した、動静脈瘻をともなった外傷性下腎動脈瘤の治療を行った。第3病日の造影CTで、左臀部に径5 cmの塊を認めた。2週間後の動脈造影で、左下腎動脈の仮性動脈瘤および動静脈瘻を認めた。6個の金属コイルを使って経カテーテル塞栓術に成功した。これは刺創による下腎動脈瘤の経カテーテル塞栓術の最初の報告例である。