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## SELECTIVE TRANSCATHETER COILS EMBOLIZATION FOR TREATMENT OF POST-TRAUMATIC DEEP FEMORAL PSEUDOANEURYSM

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### ABSTRACT

Post-traumatic pseudoaneurysm of the deep femoral artery can be treated surgically. Alternative methods of abating peripheral aneurysm include: ultrasound-guided compression, percutaneous or transcatheter injection of bucrylate glue, thrombin, coils, detachable balloons or gelfoam. We report a successful transarterial coil embolization done on a patient with a post-traumatic deep femoral pseudoaneurysm at Srinagarind Hospital, Khon Kaen University, Thailand.

### INTRODUCTION

Traditionally, treatment of peripheral pseudoaneurysms, such as a deep femoral artery pseudoaneurysm, is done surgically under direct vision. In recent years, utilization of angiographic and embolization techniques have allowed interventional radiologists an increasing role. Embolization was first considered an effective treatment of arterial bleeding and injury over 25 years ago.<sup>1,2,3</sup>

We report a case of post-traumatic deep femoral pseudoaneurysm treated using selective transcatheter embolization at Srinagarind Hospital, Khon Kaen University, Thailand.

### CASE REPORT

A 69-year old man fell from the second floor of his house. Two weeks later, the patient

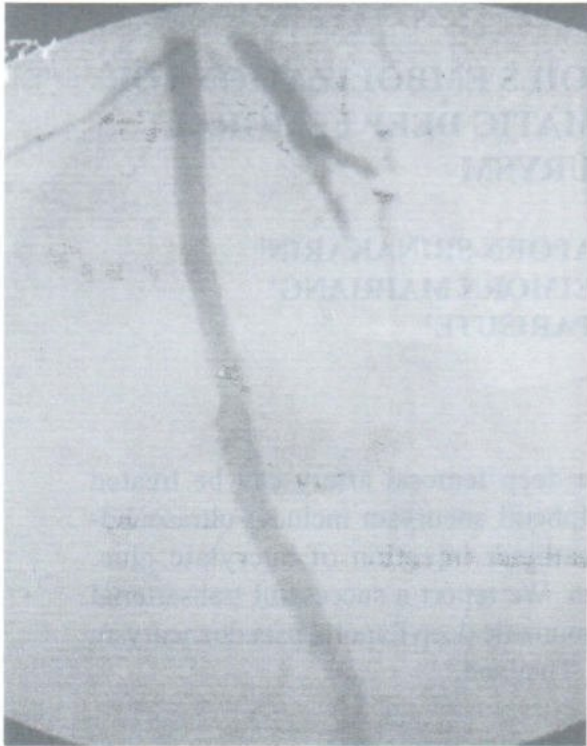
was diagnosed with a neglected inter-trochanteric fracture of the left femur and was treated by closed reduction and a dynamic hip screw. Two weeks later, the patient still had painful swelling of the left thigh.

Digital subtraction angiography (DSA) demonstrated a pseudoaneurysm originating from the distal part of the left deep femoral artery (Figures 1A, B). Through a 4-French cobra curve catheter, the tip at neck of the pseudoaneurysm, three embolization coils (Cook, Bloomington) were deposited at the neck of the aneurysm (Figure 2A). Repeat contrast medium injection into the left deep femoral artery demonstrated no contrast filling of the pseudoaneurysm (Figure 2B). Within a week, the patient had improved and was discharged. At the five-month follow-up, the patient had no swelling or pain in the left thigh.

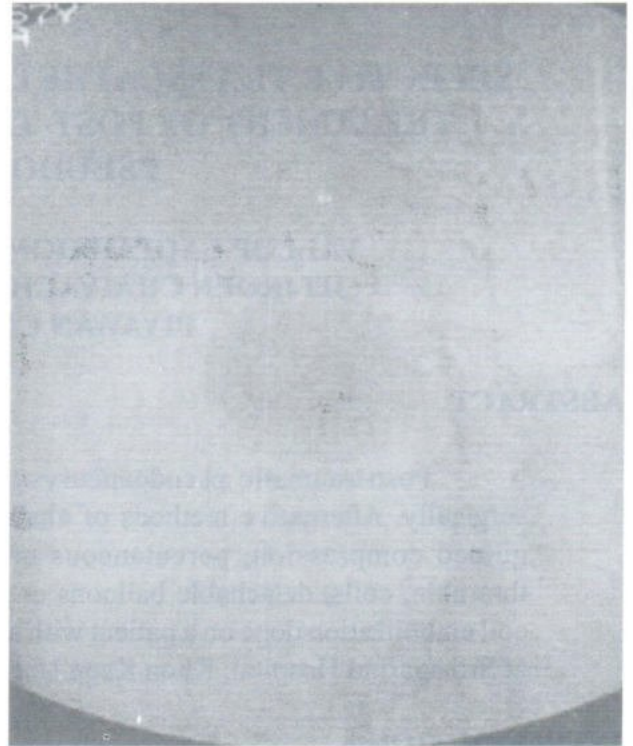
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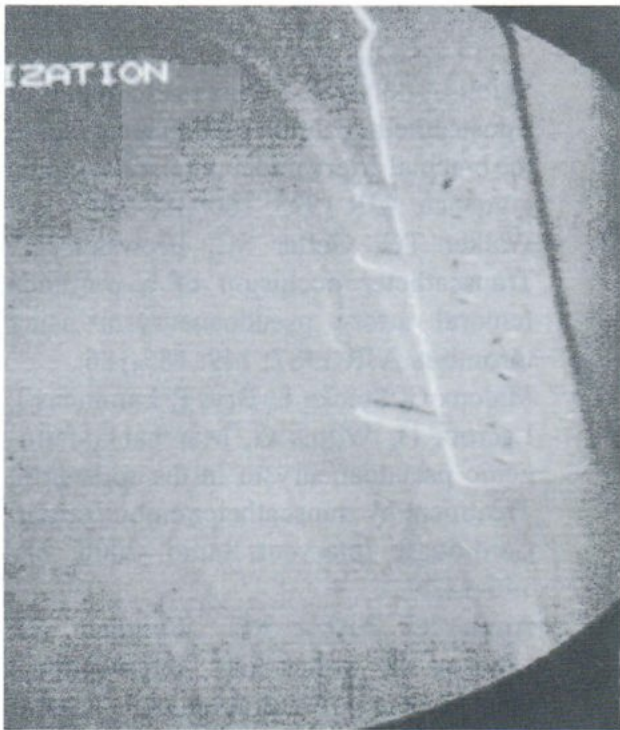


1A

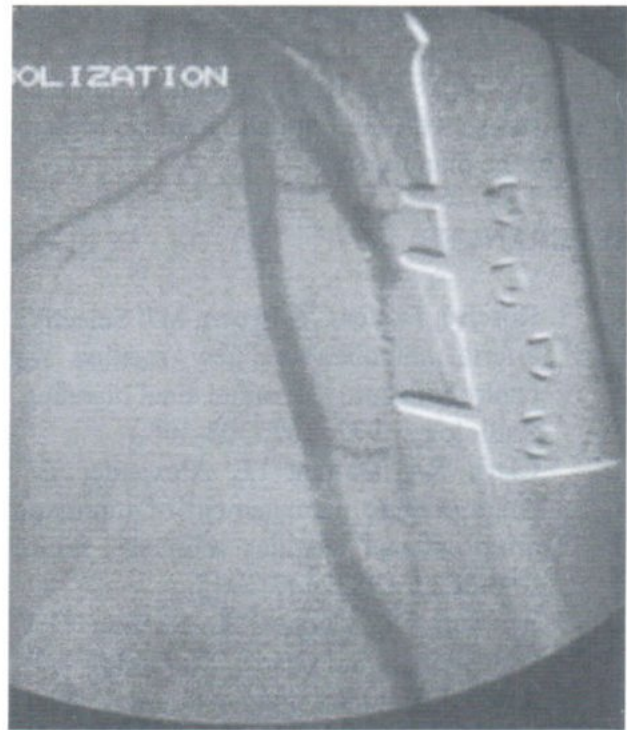


1B

**Fig. 1.** DSA of femoral artery demonstrate deep femoral artery Pseudoaneurysm.



2A



2B

**Fig. 2.** After coils embolization (2A) and repeat contrast injection into femoral artery demonstrates no further filling of the pseudoaneurysm.

## DISCUSSION

A femoral pseudoaneurysm can be managed definitively by a minimally-invasive or open surgical approach depending on its location, size, pathogenesis, and the patient's clinical status. When detected within a few hours of an invasive study, ultrasound-guided compression, is a highly successful procedure.

Ultrasound-guided compression was first introduced in 1991 and has become the treatment of choice.<sup>4,5,6</sup> If ultrasound-guided compression fails, surgical repair under direct vision is then the treatment of choice.

In recent years, utilization of angiographic and occlusive techniques have given interventional radiologists an increasing role in the

management of pseudoaneurysms. Percutaneous or transcatheter injection of bucrylate glue, coils, thrombin detachable balloons and gelform are methods of abating peripheral aneurysms.<sup>7,8,9,10,11,12</sup> The most effective of these is probably coil embolization, which has been performed both transarterially and percutaneously. We reported a successful outcome for transarterial coil embolization, in a patient with a post-traumatic deep femoral aneurysm.

In conclusion, transcatheter coil embolization is safe and effective. This technique should be considered an option for treatment of peripheral arterial pseudoaneurysms as it has significant advantages over surgical repair.

## ACKNOWLEDGMENTS

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