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## Introgenic Pseudoaneurysm of Iliac-femoral Artery; the Efficacy of Ultrasound-guided Thrombin Injection Therapy

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**Purpose:** As a consequence of the widespread application of coronary and peripheral interventional procedures, the incidence of a fernoral pseudoaneurysm is increasing. Along with the traditional surgical approach, ultrasound-guided compression or thrombin injection therapy has recently been developed and is widely used to reduce surgical morbidity. The efficacy of these therapies was compared to define the guidelines for treating an iatrogenic femoral pseudoaneurysm in Korean patients.

**Methods:** Ultrasound-guided therapies were performed prospectively since October 2000. The results of the surgical repair from July 1996 were reviewed retrospectively. A total 22 patients with an iliofermoral pseudoaneurysm were enrolled in this study.

Results: Surgical repair was performed in 12 cases, ultrasound-guided compression therapy in 1 case, and ultrasound-guided thrombin injection in 9 cases. A primary closure of the puncture site (11 cases) and an iliac artery interposition graft (1 case) were performed. Postoperative complications developed in 4 cases; wound hematoma, wound infection and ureter injury. Compression therapy was successfully performed in 1 case. A thrombin injection was performed in 9 cases. Immediate thrombotic obliteration of the pseudoaneurysm occurred in all cases. Partial recannalization was detected during follow-up duplex sonography in 1 case, who was successfully treated by an additional thrombin injection. There were no complications associated with the thrombin injection and no recurrence had occurred during the 4 weeks follow-up.

Conclusion: Thrombin injection therapy is highly efficient, safe, and comfortable. Ultrasound-guided thrombin injection could be the initial treatment of choice for treating introgenic ferroral pseudoaneurysm. (J Korean Surg Soc 2002;62: 503-507)

Key Words: latrogenic femoral pseudoaneurysm, Thrombin injection, Duplex ultrasonography: 7, ,

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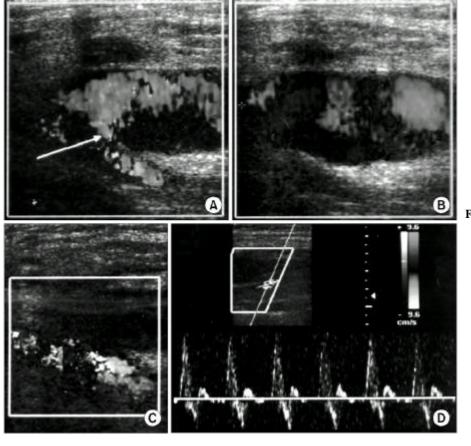


Fig. 1. Duplex sonography of femoral pseudoaneurysm. (A) Color duplex image shows a pseudoaneurysm originating from common femoral artery after catheterization. The arrow points the neck of pseudoaneurysm. (B) Size of the pseudoaneurysm is measured, 3.82×1.85 cm. (C) Shortly after thrombin injection, the pseudoanerysm is obliterated with thrombus and no flow is detected. (D) Distal superficial femoral artery shows intact blood flow with no thrombi.

가 505 1 lidocaine 3) 가 가 가 (superficial femoral artery) 11 (50%) 6 (27.3%) (superficial epigastric artery) 가 2 0.05 0.5% .(6) 4) 0.2% 12 , 가 1, 가 9 가 2000 10 12 가 가 **(1)** 가 가 가 57 가 가 가 가 가 2 , .(7) 가 가 10 cm 가 가 가 가 가 .(2,3) **(2)** (Ultrasound-guided com-60 pression therapy): 가 Fellmeth (4) .(8,9) Kang (5) (3) (Ultrasound-guided .(10-13) thrombin injection): 2000 66 (47 76) 2:7 5 가 2 . 가 3, 가 4.0 cm (1.8 7.3) 가 5 가 933 U (200 2400) 20 가 . 1 1 가

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6 ml 가 2 cm, 가 25 100% .(6) 가 3 cm . 가 가 가 가 가 가 가 가 가 가 (stagnation) .(8,9) 가 가 가 Friedman (11)가 가 가 1 가 가 가 .(12-16)가 가 가 가 100 1,000 IU/ml 0.5 1.0 ml .(10,17) 가 4 가 가 .(10, 18, 19) (anaphylaxis) 가 (plasmapheresis)

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