

Inferior Epigastric Artery Pseudoaneurysm In A 40 Year Old Male

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ABSTRACT

Injury to inferior epigastric artery is a rare but recognized complication of abdominal wall procedures with few resulting in formation of pseudoaneurysm following trauma, surgery or arterial puncture. These aneurysms can be treated surgically or non-surgically. We report a case of an inferior epigastric artery pseudoaneurysm diagnosed on a CT scan whole abdomen done with IV, oral and rectal contrast presenting to us at outpatient department after period of thirty days following exploratory laparotomy where extensive debridement of retroperitoneal tissues for retroperitoneal necrotizing fasciitis was done. The bleeding pseudoaneurysm was managed with angio-embolization.

Key words Pseudoaneurysm, Inferior epigastric artery, Angio-embolization.

INTRODUCTION:

Inferior epigastric artery is a branch of the external iliac artery that lies deep to rectus abdominis and anterior to posterior rectus sheath in paramedian plane. This can be damaged partially or completely with trauma to abdominal wall and during procedures on abdominal wall. Duplex ultrasound is the modality of choice alone or with CT angiography for diagnosis. It can be treated either surgically or via radiological coiling/embolization.¹ Few cases have been reported in literature of iatrogenic injury to inferior epigastric artery.² We describe our experience of managing one such case.

CASE REPORT:

A 42-year old male, with no known co-morbid underwent exploratory laparotomy for retroperitoneal necrotizing fasciitis and extensive debridement of the retroperitoneal tissue was done. This in itself is a rare condition. Post procedure patient was managed with broad spectrum antibiotics and daily dressings. Patient was discharged on 13th postoperative day with follow up advised in outpatient department. On

3rd follow up visit patient presented with bleeding from the midline wound and appeared pale. He had tachypnea, tachycardia and was hypotensive. Wound revealed fresh bleeding from the partially healed mid line wound. Patient was admitted and monitored. Investigations done showed a hemoglobin level of 5.9 g/dl. The other biochemical workup was reported as normal. CT scan abdomen with triple contrast was done that revealed a pseudoaneurysm of inferior epigastric artery. Angioembolization was planned. Using ultrasound and fluoroscopic guidance right femoral artery was punctured, C1 catheter and hydrophilic wire passed, and selective angiogram done that showed a small aneurysm of inferior epigastric artery. Microcatheter was used to selectively angioembolize the inferior epigastric artery with lipoid glue along with flush before and after with 5% dextrose solution. Procedure was uneventful. Patient was managed with daily dressings and wound care and discharged on 5th day with advise for regular follow up. Patient remained well at each visit.

DISCUSSION:

Injury to inferior epigastric artery resulting in pseudoaneurysm is a rare complication of abdominal wall procedures.³⁻⁵ In only one case it was an incidental finding, other patients presented with hemodynamic instability or as abdominal mass. Presentation time was variable, ranging from few hours to two months.⁶ They are difficult to diagnose clinically especially after abdominal surgeries or image guided interventions as local hematomas are a common presentation.¹ Imaging such as color Doppler ultrasound, CT scan abdomen

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and angiography are modalities that can be used for diagnosis. Color Doppler being imaging of choice for diagnosis of suspicious masses.⁷ Findings include swirling red blue pattern varying with pulse and a jet between the vessel and aneurysm.⁸ Color Doppler ultrasound has 100% sensitivity and specificity in diagnosis of pseudoaneurysm.

Treatment options include surgical ligation, endovascular coil embolization and percutaneous thrombin injection. Surgical intervention is necessary in case of large aneurysms whereas for small aneurysms non-surgical management is suitable.⁹ Endovascular coil embolization has shown success in all reported cases in literature.^{2,3,10} In our case microcatheter was used to selectively angioembolize the inferior epigastric artery via lipid glue.

CONCLUSION:

Pseudoaneurysms should be considered when patient presents with anterior abdominal wall mass after laparotomy. It can be easily diagnosed with color Doppler ultrasound and angioembolization can be therapeutic.

REFERENCES:

11. Ebrahimi AP, Toosi MN, Davoudi S, Jafarian A, Ghanaati H. Inferior epigastric artery pseudoaneurysm following paracentesis in a liver graft recipient: A case report. *Iran J Radiol.* 2015;12(3). e15517. doi: 10.5812/iranjradiol.15517v2.
2. Gage TS, Sussman SK, Conard FU, Hull D, Bartus SA. Pseudoaneurysm of the inferior epigastric artery: diagnosis and percutaneous treatment. *Am J Roentgenol.* 1990;155:529-30.
3. Lam EY, McLafferty RB, Taylor Jr LM, Moneta GL, Edwards JM, Barton RE, et al Inferior epigastric artery pseudoaneurysm: a complication of paracentesis. *J Vasc Surg.* 1998;28:566-9. doi: 10.1016/s0741-5214(98)70147-8.
4. Kim JM, Jun NH, Kim HK, Min KT. Pseudoaneurysm in the inferior epigastric artery and scrotal hematoma following removal of a femoral vein catheter-A case report. *Korean J Anesthesiol.* 2010;59: S3-5. doi: 10.4097/kjae.2010.59.S.S3.
5. Williamson JS, Harries RL, Davies G, Woodward A. Spontaneous resolution of an

inferior epigastric artery pseudoaneurysm secondary to surgical drain placement. *Ann R Coll Surg Engl.* 2012;94:e193-4.

6. Edwards KJ, Avula SK, Babu BD, England RA. Inferior epigastric artery pseudoaneurysms. *Ann R Coll Surg Engl.* 2015;97:255-8.
7. Krokidis M, Hatzidakis A, Petrakis J, Lagoudis T, Tsetis D. Coil embolization of inferior epigastric artery pseudoaneurysm after percutaneous thrombin injection failure: a case report. *Cases J.* 2009;2:6562.
8. Shabani AG, Baxter GM. Inferior epigastric artery pseudoaneurysm: ultrasound diagnosis and treatment with percutaneous thrombin. *Br J Radiol.* 2002;75(896):689-91.
9. Ferrer JV, Soriano P, Zazpe C, Vicente F, Herrera J, Lera JM. Pseudoaneurysm of the inferior epigastric artery: pathogenesis, diagnosis, and treatment. *Arch Surg.* 1996;131:102-3.
10. Pinero A, Reus M, Agea B, Capel A, Riquelme J, Parrilla P. Conservative management of an arteriovenous fistula of the inferior epigastric artery. *Br J Radiol.* 2003;76(902):135-6.

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Conflict of Interest:

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