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Case Reports

Rupture of the Abdominal Aortic Aneurysm in Young Adult: Is it a Real Emergency

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Background: Abdominal aortic aneurysm is a rare and life-threatening case. Clinical manifestations and symptoms vary, appropriate diagnosis and treatment can improve patient outcomes.
Case Description: A 28 years old man underwent intraoperative bleeding when a mass was removed from the lumbar spine. After that, decompression of the bleeding was carried out and suturing, CT angiography was carried out and an abdominal aortic aneurysm was found. The next action, namely further surgery in the cathlab with EVAR (Endovascular Aneurysm Repair) after a follow-up of 21 days after surgery, gave satisfactory results. Patients who initially experienced pain in the lumbar spine, now the pain in the spine has improved. In this case report we review the diagnostic procedure that we carried out in accordance with several existing literature.
Conclusion: In this case report, we present a 28 years old man with an initial diagnosis of spinal tumor and during surgery a ruptured abdominal aortic aneurysm was found. Next, EVAR was carried out in the Cathlab room and gave satisfactory results.

***Keywords*:** *Abdominal aortic aneurysm, Aneurysm rupture, EVAR*
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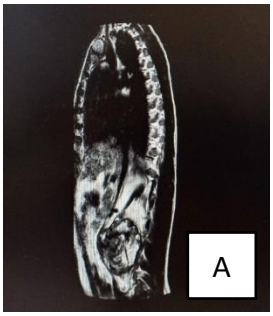
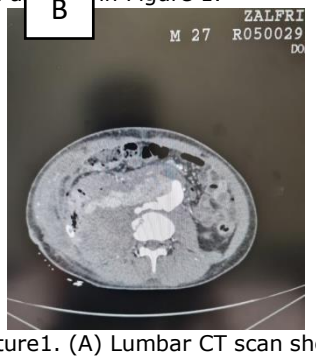
INTRODUCTION

Abdominal Aorta Aneurysm (AAA) is a rare case. However, AAA is a challenge for both doctors and patients because it is faced with high morbidity and is often not detected for diagnosis. We present the case of a male patient with an abdominal aortic aneurysm who ruptured during surgical removal of a tumor in the lumbar vertebrate spine.

CASE REPORT

A 28 years old man complained of pain in his lower back, the pain became increasingly intense over time. The patient was treated by an Orthopedic doctor and a Lumbar CT Scan was carried out. From the results of the Lumbar CT Scan, a spinal mass was suspected a in Figure 1.





Picture1. (A) Lumbar CT scan shows a mass pressing on the lumbar vertebral bones. (B) Sagittal CT scan shows a tumor in the lumbar vertebrae.

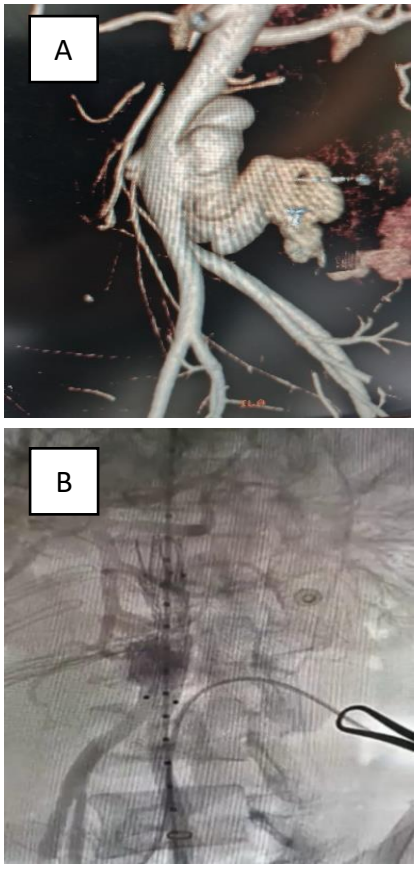
From the results of the examination, it was decided to undergo surgery to remove the tumor. During intraoperative
the bleeding was so heavy that the operation was not continued. Next, the patient is consulted for vascular and endovascular surgery. The patient underwent an immediate CT angiography

examination as shown in Figure 2 which revealed a ruptured abdominal aortic aneurysm.

Picture2. Aortic stent graft (Tube)

DISCUSSION and RESULTS

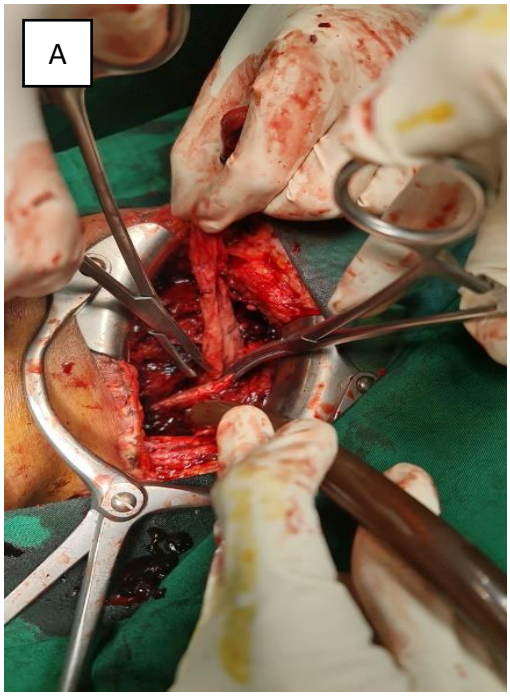
From the results of the second examination, the patient was prepared to undergo EVAR (Endovascular Aortic Repair) surgery. An endovascular technique, namely Endovascular Aneurysm Repair or better known as EVAR, is chosen in the treatment of AAA, especially in patients with serious surgical risks.[1]. EVAR surgery using a unigraft type stent as shown in figure 3.



Picture3. (A) CT Angiography shows a ruptured abdominal aortic aneurysm 3.5 cm from the bifocarcation of the common iliac artery. (B) Image after EVAR installation

Followed by the removal of the gauze tampon.

Emergency surgery is performed with EVAR via guiding wire[2]. Wire is used to guide by inserting a stent that will be placed at the location of the aneurysm, the stent is placed on the distal iliac bifusate of the common iliac artery valve.



Picture4. (A) Intraoperative tampon removal

process, (B) Intraoperative tampon

After successful EVAR, the patient was treated for 10 days and the next control was carried out 7 days after treatment (Figure 5). The results were very satisfactory shown with good wound healing and no signs of infection.

Picture 5. Wound condition after 32 days after surgery.

Abdominal aortic aneurysm is a case that is difficult to detect for diagnosis. Cases of aortic aneurysms are often misdiagnosed with cases of intra-abdominal tumors. Inadequate tracking and diagnostic tools lead to misdiagnosis, so that aneurysm cases are often discovered intraoperatively. The occurrence of an abdominal aortic aneurysm should be detected early with a good screening process that takes into account existing risk factors.[3]. Age over 60 years is a risk factor for AAA, other risk factors include smoking and a history of blood vessel disease[4].

Routine clinical examinations are rarely carried out in cases of abdominal aortic aneurysm, so the aneurysm often presents with a ruptured condition (Rupture of abdominal aortic aneurysm). Studies have shown that the risk of rupture is <2% when the aneurysm is less than 4 cm and increases significantly when the aneurysm diameter increases beyond 5 cm.[5]. Most abdominal aortic aneurysms have no symptoms. Aneurysms can be found on physical examination, but because anatomically the location of the aneurysm is retroperitoneal and the accuracy is very low. Clinical symptoms that can indicate an abdominal aneurysm are pain in the waist, abdominal pain, lower abdominal pain and pain in a throbbing abdominal mass, so further evaluation is needed. Abdominal examination of patients with suspected abdominal aortic aneurysm should include in-depth manipulation to elicit pain on palpation of the aorta. The abdominal aorta can be palpated as part of a normal physical examination without suspecting an aneurysm.

In patients with abdominal aortic aneurysms, the diameter and speed of enlargement of the aneurysm itself are the most common predictors of aneurysm rupture. Serial imaging is very important in following up patients with abdominal aortic aneurysm. In most cases of fusiform aneurysm type, surgical treatment is indicated when the aneurysm diameter is > 5.4 cm or the aneurysm grows > 5 mm in size over a six months period.

Abdominal aortic aneurysm is a serious complication of injury to the abdominal aorta. The etiological factors in AAA are chronic infection, inflammation and trauma. Each of these factors cause disruption to the continuity of the artery walls. From this condition, pressure on the arteries causes blood to infiltrate the damaged area and form a perfusion pocket that is connected to the lumen of the artery. In a true aneurysm, the sac formed consists of all three intact layers of the artery. Determining that an aneurysm will rupture clinically is quite difficult because patients usually do not show symptoms or pain specific to an aneurysm.[5].

The clinical symptoms that appear in abdominal aortic aneurysms vary greatly, such as abdominal pain, pain in the side. Low back pain is a sign of pressure on surrounding organs, such as the inferior vena cava, visceral veins, spinal erosion. Gastrointestinal bleeding is sometimes accompanied by the rupture of an aneurysm which has the potential to cause death in the patient.[6]

Cases of infrarenal aortic aneurysm are quite rare and have varied clinical manifestations and symptoms, prompt and appropriate treatment can improve patient outcomes. Possible treatment options are surgical, endovascular, induction of thrombosis in the aneurysm sac via direct thrombin injection and coil embolization. Surgical operation consists of aneurysm resection and interposition graft or abdominal aortic aneurysm resection and aorta repair with a Dacron aortoplasty patch on the lateral side. Endovascular surgery for abdominal aortic aneurysm has been reported via stent placement[7].

CONCLUSION

Abdominal aortic aneurysm is very rare and life-threatening. The clinical symptoms that appear in abdominal aortic pseudoaneurysm vary greatly, such as abdominal pain, pain in the waist. Inadequate tracking and diagnostic tools lead to misdiagnosis, so that aneurysm cases are often discovered intraoperatively. In this case, we performed aggressive intraoperative management of the ruptured aneurysm and provided very satisfactory results.

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