

PRIMARY MYCOTIC ANEURYSM

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SUMMARY

Due to the nonspecific clinical findings and poor prognosis, early recognition is mandatory in mycotic aneurysms. After rupture, they are almost always fatal. The difficulty and importance on early diagnosis of primary mycotic aneurysm prompts the presentation of a case of mycotic aneurysm of the abdominal aorta.

The term of Mycotic Aneurysm, was introduced by the first time by Osler,¹ in 1885, to describe any aneurysm resulting from any infection process involving the arterial wall. In spite of the low incidence and the widespread use of antibiotics, mycotic aneurysms are still a serious threat to life.²

Due to the insidious onset, the diagnosis is generally only made after rupture or leakage had occurred. The surgery is then made in a contaminated field with consequent failure of the graft and poor prognosis.³

Mycotic Aneurysms may be classified as secondary (result of an intravascular source of infection such as bacterial endocardites or contiguous infection) and primary (unknown or distant source of infection).⁴ Those lesions without primary focus of infection may also be termed as cryptogenic.⁵

Since the advent of antibiotic therapy the incidence of the secondary aneurysms has decreased and the most of the mycotic aneurysms are now primary.²

Salmonella are the most frequent pathogens organisms and Staphylococci and Pneumococci are second in incidence.²

CASE PRESENTATION

A 48 year old black female was admitted to the hospital complaining of diarrhea and fever for a week prior to admission. The diarrhea was watery and brown containing no blood or mucus. The fever (39°) was associated with shaking chills. One day before the admission she had had a colicky pain in the left lower quadrant of the abdomen. In the meantime a pulsatile mass was felt in the midline of the abdomen.

The past history was significant for malignant hypertension with renal artery stenosis bilaterally and nephrosclerosis. She was on hemodialysis for 1,5 year.

On examination the patient was slightly pale and prostrated. The pulse was 96, the blood pressure 140/60 and the temperature 39° C. There was a diffuse abdominal tenderness and a round pulsatile masse of about 10 cm in diameter was palpable in the midline of the abdomen.

The haemoglobin was 12 g/dl; the erythrocytes 3,800,000; the white blood cells 50,000 with 95 % neutrophils.

On the second hospital day the patient became anemic, the haemoglobin was 8 g/dl and three pints of blood were transfused. An abdominal aortogram was performed. The abdominal aorta as well as the iliac arteries were irregular in caliber due to atherosclerosis, and there was a sacular aneurysm distally to the right renal artery located eccentrically from the right wall of the aorta. There was a severe stenosis at the origin of the right renal artery and another stenosis at the distal left renal artery. On the late phase of the angiogram some contrast medium was visualized outside of the aorta due to extravasation. The angiographic findings plus the signs of infection raised the possibility of a mycotic aneurysm with rupture.

An abdominal laparotomy was performed. It was found an aneurysm 10 cm of width, extending from below superior mesenteric artery to above aortic bifurcation. The aneurysm was filled of pus and clots leaked into retroperitoneo space and compressing the pancreas that was large and edematous. The aneurysm was resected on all its extent and an axillary femoral bypass was put on.

The pathological specimen showed extensive loss of intima, and destruction of elastic muscularis and adventitia in some areas. Cultures of *Salmonella* grew from the pus obtained.

In the postoperative course the patient went into renal failure and it was put on dialysis. On the third postoperative day the patient died due to extensive pulmonary embolus.

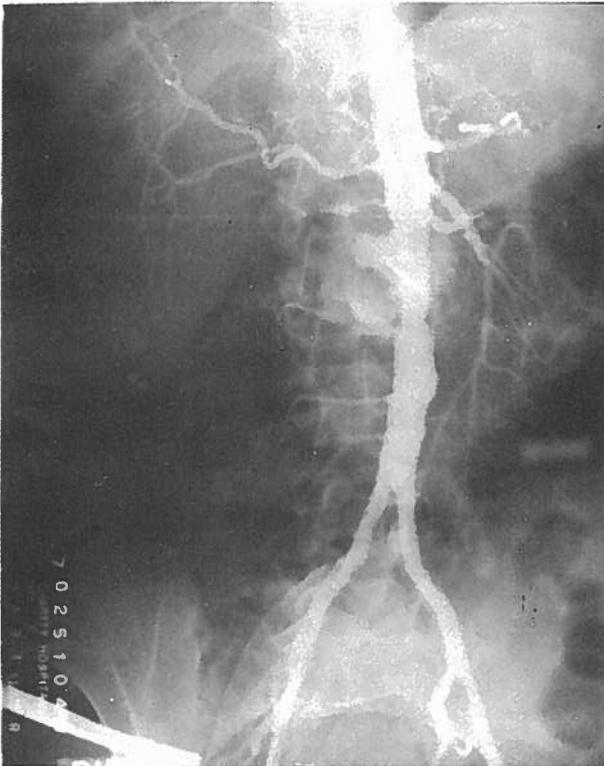


Fig. 1—*Abdominal aortogram. Sacular aneurysm below the right artery; extravasation of contrast medium shown to the right of the aorta overlying the spine. Atherosclerosis. Severe stenosis of proximal right renal artery. Distal stenosis of the left renal artery.*

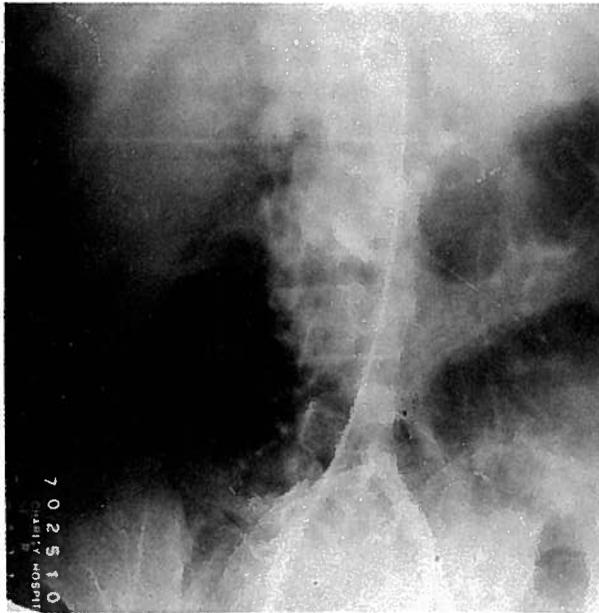


Fig. 2—Late phase of abdominal aortogram. Extravasation of contrast medium is visualized at the level of L_3 .

DISCUSSION

Mycotic aneurysms have nonspecific clinical findings. The onset is often insidious, with fever as the only manifestation.² In primary mycotic aneurysms a rapid desintegration of the wall with rupture may occur without any dilatation and the artery will bleed freely into the surrounding structures.² In such patients any pulsatile mass associated with infection should be suspected.⁶ The insidious nature of aortic mycotic aneurysm was well shown in this patient and the diagnosis was not suspected until rupture occurred.

Primary mycotic aneurysms are more frequently located at the distal portion of the abdominal aorta and proximal lower extremity. The susceptibility of these vessels may be due to atherosclerosis with implantation of circulating bacteria on an area of ulcerated atheromatous plaque.²

Such a mechanism might be involved in our case, in which endocarditis or known infection were not present and the abdominal aorta showed severe atherosclerosis.

On angiography an aneurysm can be suspected as mycotic if there is sudden appearance, rapid progression in size and uncommon localization⁶.

RESUMO

Dado que os sintomas clínicos dos aneurismas micóticos não são específicos e que o seu prognóstico é grave, quando tratados tardiamente, justifica-se que se tente o seu diagnóstico precoce. Tais casos são quase sempre fatais após rotura. Com a apresentação

dum caso de aneurisma micótico da aorta abdominal, procuram os autores mostrar a dificuldade e importância de um diagnóstico precoce.

REFERENCES

1. OSLER WG: Lectures on malignant endocardites. *Brit Med J* 1885; 1: 467.
2. BENNETT DE: Primary mycotic aneurysms of the aorta. *Arch Surg* 1967; 94: 758.
3. LAWRENCE GH: Surgical management of infected aneurysms. *Amer J Surg* 1962; 104: 355.
4. CRANE AR: Primary multilocular mycotic aneurysm of aorta. *Arch Path* 1937; 24: 634.
5. BJUM L, KEEFER EB: Criptogenico mycotic aneurysm. *Ann Surg* 1962; 155: 398.
6. WEINTRAUB RA, ABRAMS HL: Mycotic aneurysms. *Amer J Roentgenol* 1968; 102: 355.

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