DISSEMINATED FUNGAL INFECTION OF VASCULAR SYSTEM

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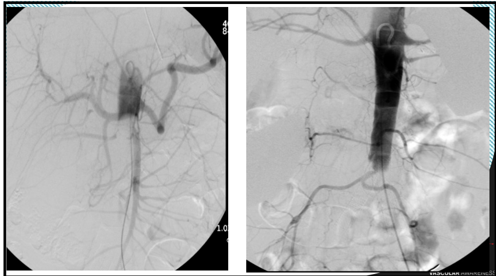
DISSEMNINATED FUNGAL INFECTION OF VASCULAR SYSTEM

41-year-old man, worsening claudication, blue toe syndrome left foot.
Angiogram revealed 95% + stenosis of both common iliac arteries
Thrombectomy of aortoiliac segment attempted without success
Kissing stents placed by bilateral femoral cut down
Thrombectomy of left popliteal artery done with removal of "tiny piece of thrombus". Completion angiogram reported as chronic occlusion of left popliteal artery

AORTIC INFECTION

Four weeks later, presents with acute ischemia both legs
Bilateral groin cutdown - unable to do thrombectomy
Was able to pass catheter into aorta, angiogram done
Complete aortic occlusion with no flow in renal arteries and limited flow in SMA
Exploration, aortic thrombectomy with restoration of flow to SMA and right renal artery



DISSEMINATED FUNGAL INFECTION OF VASCULAR SYSTEM INFECTION

1. Ex-lap, longitudinal aortotomy, thromboendarterectomy,
2. Restoration of flow to right renal and SMA, limited flow L kidney
3. Limited flow into iliac arteries
4. Aorta closed. Two additional stents placed in iliac with

DISSEMINATED FUNGAL INFECTION

Four days post-op, develops loss of vision

CT Head: R frontal/parieto-occipital infarcts. Left PCA occlusion

Transferred to WMC stroke unit

Pathology report from OSH: thrombus from aorta – fungal mass

ID, Renal, CTS and vascular consult called

ECHO & CT scan done

AORTIC FUNGAL INFECTION

CT SCAN FINDINGS

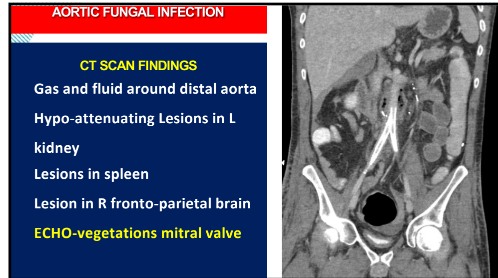
Gas and fluid around distal aorta

Hypo-attenuating Lesions in L kidney

Lesions in spleen

Lesion in R fronto-parietal brain

ECHO-vegetations mitral valve



FUNGAL INFECTION OF AORTA

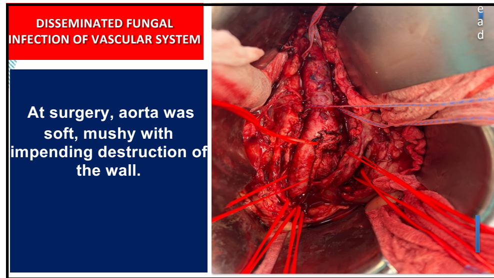
Mitral valve replaced

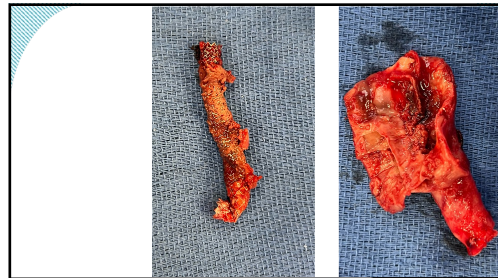
Two days later

Ex-lap, removal of infected aorto-iliac stents, resection of the infected aorto-iliac segment, reconstruction with cryopreserved cadaveric aortoiliac graft, abdominal washout and closure

DISSEMINATED FUNGAL INFECTION OF VASCULAR SYSTEM

At surgery, aorta was soft, mushy with impending destruction of the wall.

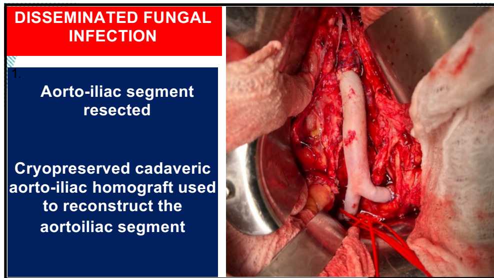




DISSEMINATED FUNGAL INFECTION

Aorto-iliac segment resected

Cryopreserved cadaveric aorto-iliac homograft used to reconstruct the aortoiliac segment

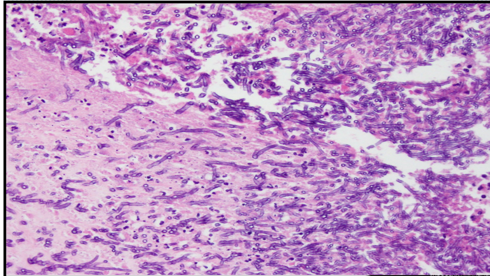


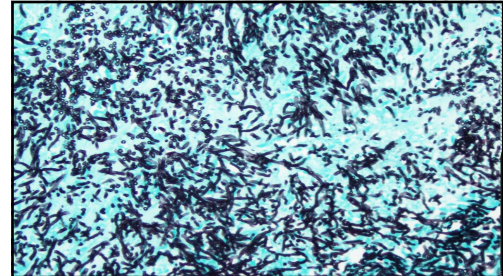
POST-OP DAY D 5

Open thrombectomy of left popliteal, ATA, TPT, posterior tibial artery; Resection of infected popliteal artery; Placement of above the knee to below the knee popliteal artery bypass (RSV); angiogram LLE

All specimens – mitral valve vegetation, aortic thrombus and aortic wall, popliteal artery and its contents – all grew the same organism

ASPERGILLUS FUMIGATES





DISSEMINATED FUNGAL INFECTION OF VASCULAR SYSTEM

POD 9

Discharged home on IV Micafungin X 6 weeks

Life long Voricanazole

DISSEMINATED FUNGAL INFECTION OF VASCULAR SYSTEM

Readmitted three months later with recurrent mitral valve vegetation, aortic anastomotic pseudoaneurysm, occlusion of left subclavian artery

Redo mitral valve, resection of aortic cryopreserved graft, axillo-bifemoral bypass, left subclavian thrombectomy, thrombectomy of right tibio-peroneal arteries, = all had aspergillosis

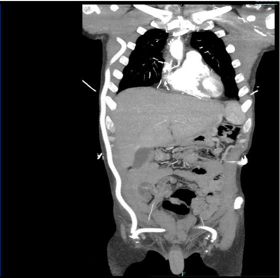
Fungal endophthalmitis requiring I & D of vitreous chamber, intraocular infusion of antifungal agents

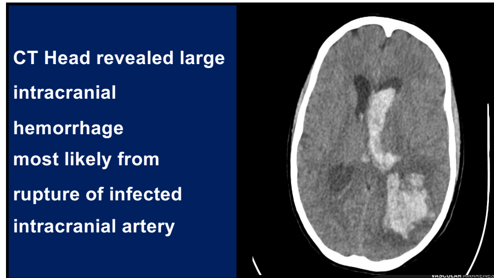
Developed lethargy, CT head – massive intracranial hemorrhage most likely ruptured infected intracranial artery

Comfort care initiated. Patient expired

Removal of infected cryopreserved graft, closure of aorta and axillo-bifemoral bypass

Few weeks later, removal of infected mitral valve & new valve placed





DISSEMINATED FUNGAL INFECTION OF VASCULAR SYSTEM

UNIQUE ASPECTS OF THIS CASE

THIS WAS A HEALTHY MAN

NO H/O TRANSPLANTATION, CANCER OR ANY OTHER DISEASE

NO IMMUNOSUPPRESSIVE DRUGS OR RADIATION OR SURGERY

OUR ID EXPERTS WERE UNABLE TO DEFINE ANY KNOWN

IMMUNOCOMPROMISED STATE DESPITE ALL THE KNOWN TESTS

CASE REFERRED TO IMMUNOLOGY EXPERTS IN NIH

DISSEMINATED FUNGAL INFECTION OF VASCULAR SYSTEM

Fungal infection occurs in only 1-2% of all infective valve endocarditis

The most common is Candidiasis

Aspergillosis is rare & is angio-invasive

Aspergillus fumigatus strain is the most common strain

Aspergillus flavus is even less frequent

Widespread infection of various segment of arterial system despite antifungal treatment is very rare

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ANGIO-INVASIVE ASPERGILLOSIS IN HEALTHY YOUNG ADULT

Thank You