Totally laparoscopic surgery for treating juxtarenal aortic occlusion

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Juxtarenal aortic occlusion

• The most severe type of infrarenal aortic occlusion;
• Difficult to treat: operations & complications;
• Treatment:
  Traditional open surgery;
  Endovascular therapy;
  Laparoscopic surgery;
Case report - Case 1

- Male, 58 years old;
- Intermittent claudication distance 100 m;
- ABI: (R)0.6/0.3(L);
- MRA:
- Failed endovascular therapy;
- Treatment: Totally laparoscopic aortic thrombectomy + aortobifemoral bypass
Case report - Case 1

- Event: graft embolism-Intraoperative embolectomy;
- Postoperative ABI: 1.18.9/1.06;
- Follow-up of 12 Mths: graft patent.
- MRA: 3mths postop.
Case report - Case 2

- Male, 64 years old;
- Intermittent claudication distance 50m;
- ABI: (R)0.26/(L)0.3;
- CTA:
- Failed endovascular therapy;
- Treatment: Tatally laparoscopic aortic thrombectomy + aortobifemoral bypass;
Case report - Case 2

- Events:
  1) weakened bilateral femoral A. pulsation — residual stenosis in aorta (CTA);
  2) left renal infarction (fan lesion) (CTA);
- Complementary treatment: aortic stenting;
- Follow-up of 14 mths: patent stent and graft
Discussion

• Treatment of juxtarenal aortic occlusion:
  - **open surgery**: maximally invasive;
    good long-term graft patency;
  - **endovascular treatment**: minimally invasive;
    lower long-term patency;
  - **laparoscopic surgery**: minimally invasive;
    good long-term patency;
Discussion

Laparoscopic aortic thrombectomy:

- Feasible:
  - direct removal of the thrombus under aortic incision;
  - proximal end of thrombus not hard –removable with Fogarty catheter

- May result in residual thrombus
  - aortic stenosis /restenosis;
  - embolization.

- Introperative angiography is needed to confirm efficacy.
Discussion

- Renal infarction:
  (renal artery embolization)
  - complication of aortic thrombectomy;
  - preventable: inflated balloon in renal artery;
  - intraoperative angiography is needed
    prevention - balloon inflation;
    treatment - embolus aspiration/thrombolysis;
Treatment of juxtarenal aortic occlusion:

Hybrid approaches:
- aortofemoral bypass – blood reconstruction;
- endovascular procedures
- diagnosis, prevention and treatment of laparoscopic operation complications;
Summary

Juxtarenal aortic occlusion:

• Totally laparoscopic surgery is a good choice;

• Laparoscopic thrombectomy + aortofemoral bypass is feasible and effective;

• Hybrid procedures are suggested for prevention and treatment of laparoscopic surgery complications.
Thank You!
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