

Endovascular Repair of a Ruptured Mycotic Aneurysm Involving the Descending Thoracic Aorta

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Purpose

- To describe a case of an endovascular repair of a ruptured infected thoracic aortic aneurysm.
- To provide a review of the current literature involving treatment of mycotic aneurysms.

Case

- 64 YOF** w/h/o essential thrombocytosis and DVT on Coumadin p/w fevers and mid-back pain.
- CT Scan HD1** - large 6.4 cm irregular saccular aneurysm vs. pseudoaneurysm of the distal descending thoracic aorta.
- CT Scan HD5** (obtained 2/2 hemodynamic and respiratory deterioration) - enlargement and further irregularity of the thoracic aneurysm and worsening pleural effusions. Significant peri-aortic inflammatory changes and persistent leukocytosis brought up the concern of a possible ruptured mycotic aneurysm.
- Consultation** - Poor surgical candidate, vascular surgery proceeded with an emergent endovascular repair. Plans for explantation and open repair once stabilized.

Images

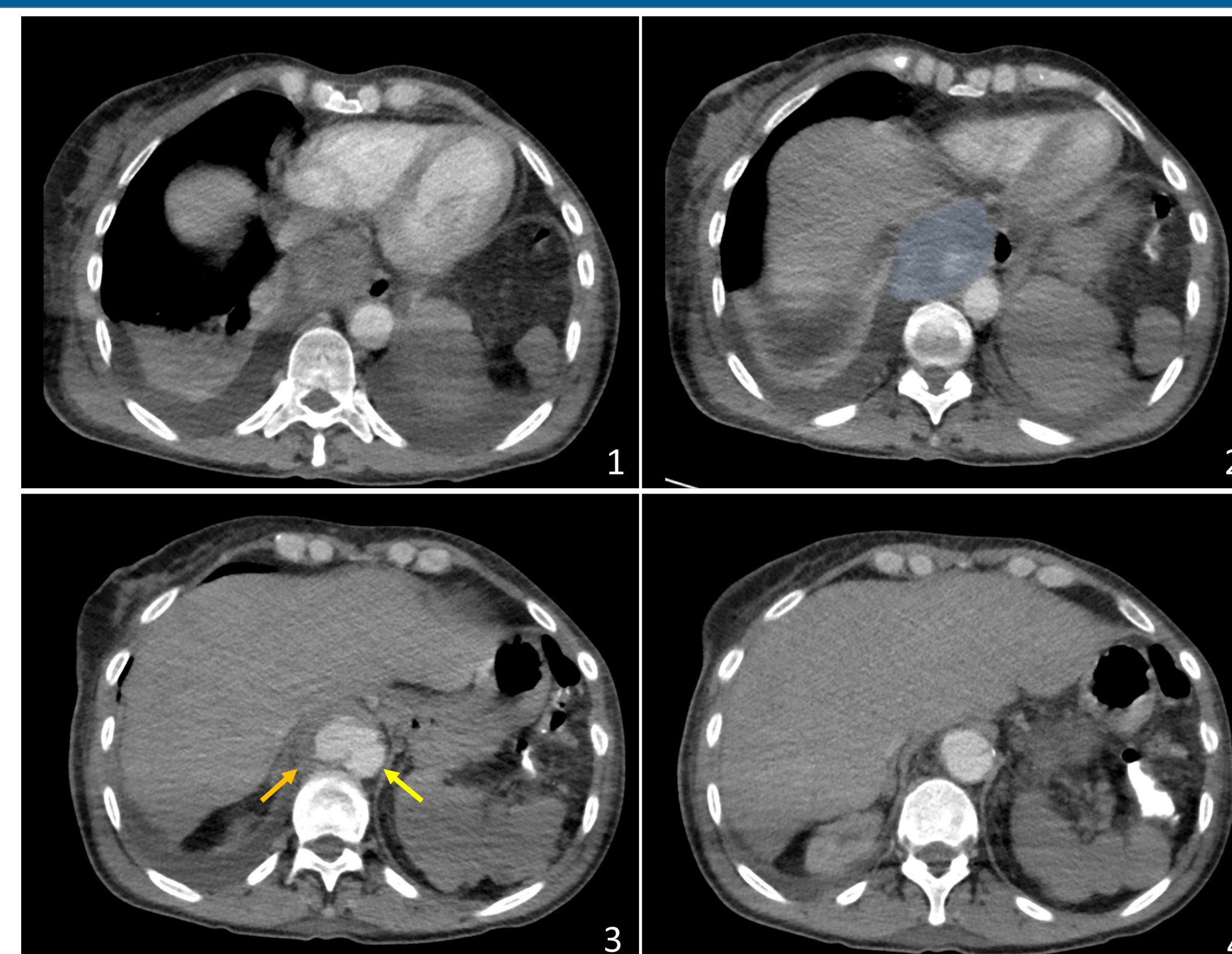


Figure 1: Contrast-enhanced axial CT images (1-4) of the descending thoracic aorta demonstrate a mixed density mass-like consolidation surrounding the aorta (blue outline in 2, orange arrow in 3). The aorta is aneurysmal and irregularly lobulated more inferiorly (yellow arrow in 3). Findings consistent with contained rupture or infectious aortitis.

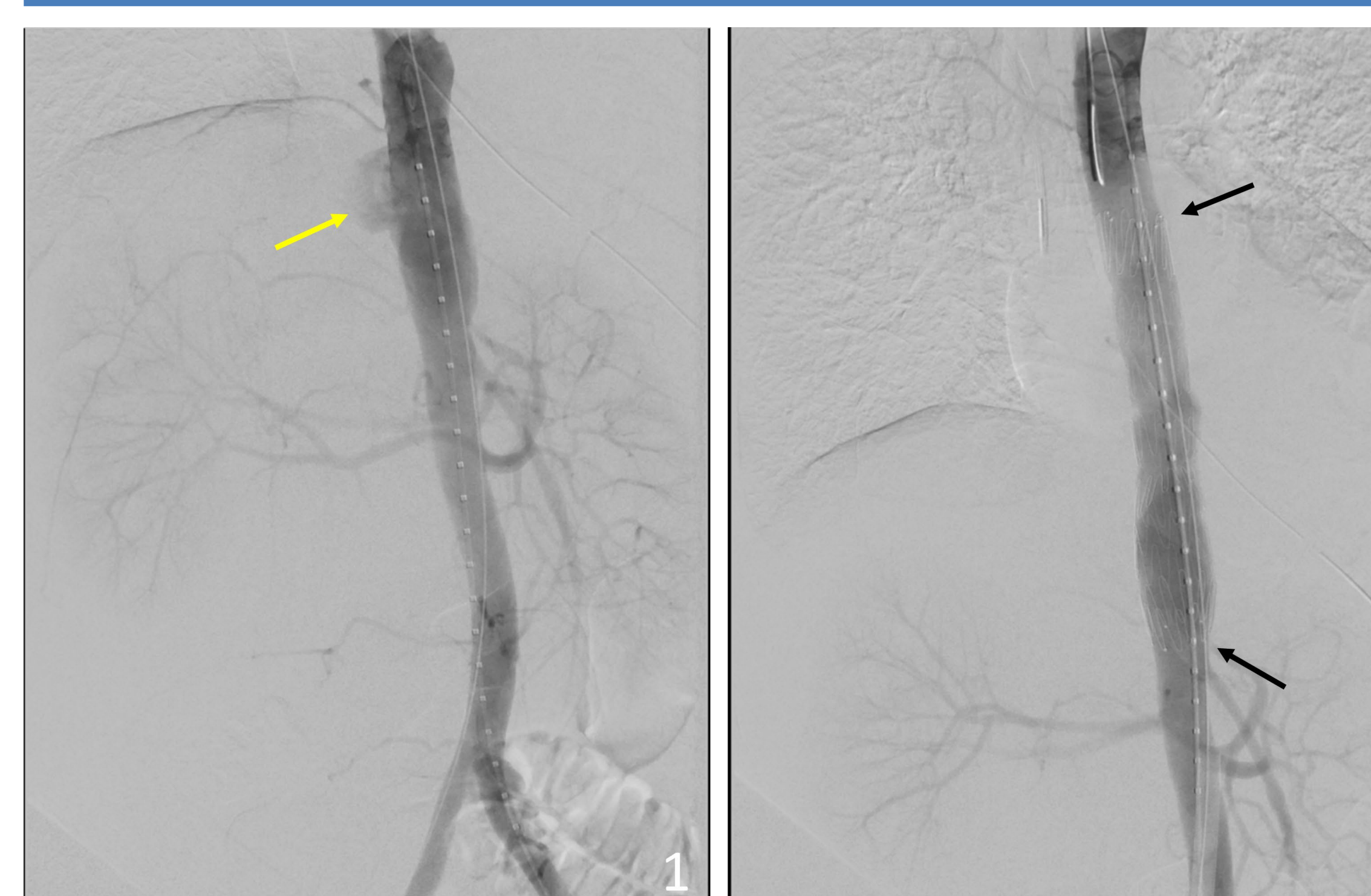


Figure 2: Digital subtraction angiograms (1-2) from intra-operative placement of a covered stent demonstrates contrast outlining the aneurysmal sac (yellow arrow in 1). Post-deployment angiogram demonstrates successful exclusion of the aneurysmal sac using a covered stent (black arrows in 2).

Literature Review

Risk factors - antecedent infections (i.e., pneumonia, cholecystitis, etc.), immunosuppression, arterial injury, atherosclerosis, and pre-existing aneurysms.

Clinical presentation - Vague. Imaging required for diagnosis. Blood cultures should be obtained, however, may be negative in 25-50% of cases (as in this case).

Suggestive CTA Findings - multilobulated irregular aneurysm, peri-aortic soft tissue inflammation, peri-aortic mass-like consolidation, intramural air, and perivascular fluid collection.

Treatment - no RCTs to date to guide treatment. General considerations include antibiotics and surgical debridement, aneurysmal excision, and reconstruction.

Endovascular repair - reserved for high-risk patients or those with aneurysm rupture as a temporizing measure.

Hospital Course

Post-operatively, the patient remained stable with limited hemodynamic support. Decision was made to transfer the patient to a specialized center for explantation of the temporizing aortic stent and open aortic repair. Unfortunately, before the transfer, patient was found to have acute leukemia and was placed in in-patient hospice due to a grim prognosis.

Conclusion

Endovascular aortic repair is indicated as a temporizing measure for ruptured infected aneurysms or in patients with an infected aneurysm who are not candidates for open repair.

Contact/References

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References

