Definition

- **Epidemiology**
  Rare complication after kidney transplantation • Occurs in less than 5% of cases • Usually occurs in the first week postoperatively.

- **Etiology, pathophysiology, pathogenesis**
  Hypovolemia • Vein compression due to local fluid accumulation (hematoma, abscess, urinoma, lymphocele) • Stenosis at the anastomosis • Acute rejection.

Imaging Signs

- **Modality of choice**
  Color Doppler ultrasound.

- **Ultrasound findings**
  Enlargement of the transplant kidney with loss of corticomedullary differentiation.

- **Color Doppler ultrasound findings**
  Reduced perfusion of the renal cortex • No flow signal in the renal vein • Retrograde diastolic flow in the intrarenal arteries.

- **MRI**
  MR venography can be used to confirm the diagnosis.

Clinical Aspects

- **Typical presentation**
  Painful swelling of the transplant • Diuresis suddenly ceases • Retention values increase.

- **Therapeutic options**
  Thrombectomy.

- **Course and prognosis**
  Infarction often occurs with loss of the organ.

- **What does the clinician want to know?**
  Reasons for the organ dysfunction.

Differential Diagnosis

- **Transplant renal artery stenosis**
  Direct and indirect signs of stenosis such as flow acceleration, turbulence, pulsus tardus, and pulsus parvus.

- **Acute tubular necrosis, acute rejection**
  Increased resistance index

Tips and Pitfalls

The retrograde diastolic flow in the intrarenal arteries is pathognomonic of complete transplant renal vein thrombosis.
Selected References

Schenk JP et al. [Radiodiagnosis following kidney transplantation.] Radiologe 1999; 39: 404–414 [In German]

\[Fig. 6.8\] Transplant renal vein thrombosis. Color Doppler ultrasound shows diastolic retrograde flow in a segmental artery, a pathognomonic finding. The margins of the organ are marked by triangles.