

# ASSESSMENT OF KIDNEY VIABILITY IN PATIENTS AFTER EXTRACORPOREAL RESECTION UNDER CONDITIONS OF PHARMACOLOGICAL COLD ISCHEMIA WITHOUT INTERSECTION OF THE URETER WITH ORTHOPTIC REPLANTATION OF VESSELS WITH ANURIA IN THE EARLY POSTOPERATIVE PERIOD

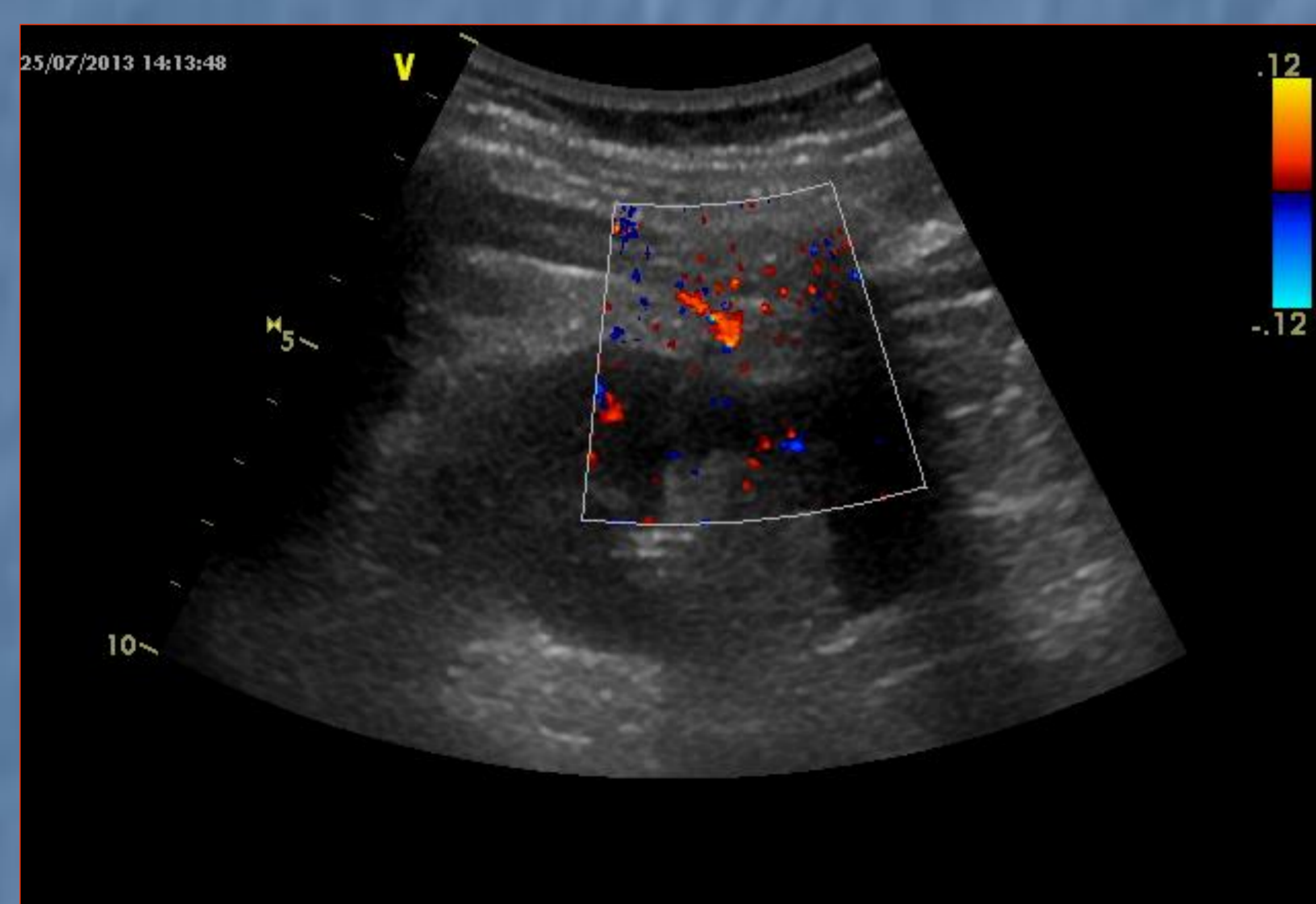
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**Introduction.** In the early postoperative period after extracorporeal kidney resection, there is a high risk of acute renal failure, which may be due to tubular and cortical necrosis. The kidneys are extremely sensitive to ischemia, so acute renal dysfunction is a common complication of hypotension. Also, early postoperative complications after extracorporeal kidney resection include formed hematomas and bleeding from the kidney resection zone. Thus, it may be necessary to assess the viability of the kidney. MSCT of the kidneys with the introduction of an iodine-containing contrast medium is not recommended to conduct in the early postoperative period, since contrast-induced nephropathy may occur.

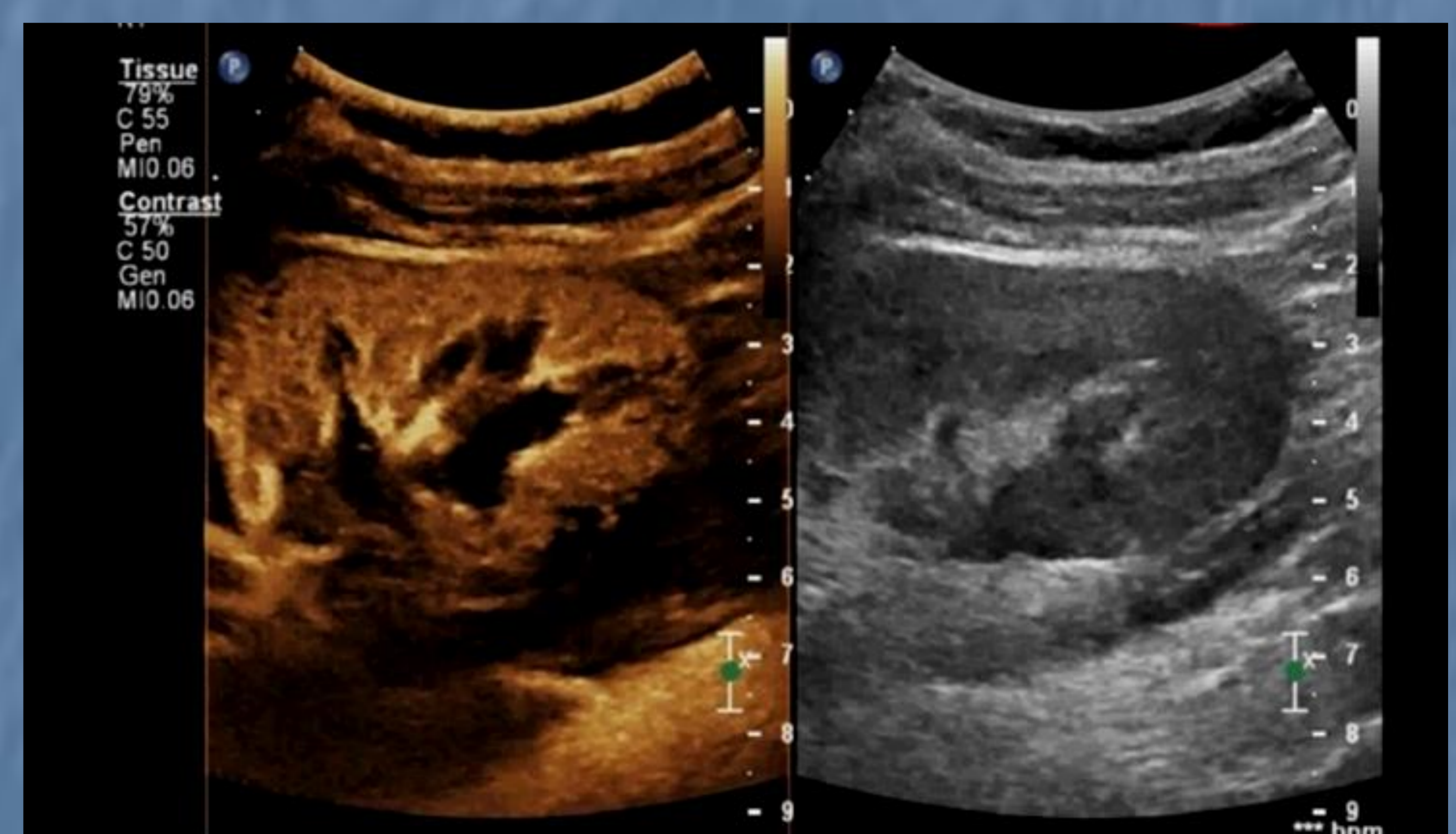
**The purpose:** to develop and evaluate a research methodology that allows an accurate and reliable assessment of the state of the vascular bed of the kidney without radiation exposure and the administration of nephrotoxic contrast medium at the bedside of a patient with renal failure and other complications at intensive care.

**Materials and methods.** A study on the proposed method was performed in **9 patients** with anuria in the postoperative period out of **47 operated patients** with renal cell carcinoma with a central and intraparenchymal location of the tumor in the kidney; with tumors of large sizes, but potentially resectable; in patients with tumors of a single kidney; with bilateral neoplastic tumor of the kidneys.

**Results.** In the early postoperative period, in the event of acute renal failure, an ultrasound research is performed in duplex scanning mode and with the introduction of an echo-contrast medium. Ultrasound duplex scanning is performed in Color Doppler and / or Energy mapping modes to confirm the presence or absence of intraorgan blood flow in the kidney. In case of clinical anuria, intraorgan blood flow in the resected kidney is not recorded. Next, perform an ultrasound with the introduction of an echo-contrast medium.



**Intraorganic blood flow in the resected kidney is not recorded**



**The kidney was recognized as viable according to echocontrast data**

In all 9 cases, the kidney was recognized as viable and patients continued hemofiltration sessions until the appearance of urine. In 3 cases, it was necessary to conduct a study on this technique twice, in 2 - three times. Repeated injections were performed in patients with initially more compromised kidneys. The total duration of anuria ranged from 3 to 7-8 days.

Since patients have anuria, hemofiltration courses are possible. The study must be performed with the hemofiltration device turned off and the kidneys not forced to work.

**Conclusion.** The technique of contrast enhancement during ultrasound examination of patients with renal cell carcinoma in the early postoperative period after extracorporeal resection of the kidney under conditions of pharmacological cold ischemia without intersection of the ureter with orthotopic vascular replantation is very effective in assessing the viability of the kidney in controversial issues in case of complications in the early postoperative period.