Surgicel (Johnson & Johnson Medical, New Brunswick, NJ) represents well-known surgical haemostatic material. This report presents a case of a 36-year-old female patient who had postoperative extrinsic kidney allograft obstruction secondary to Surgicel. The patient presented with fever, pain in the perigraft region and hydronephrosis. After diagnostic procedure, a reexploration along with surgical removal of Surgicel was performed. The operative outcome was excellent. *Acta Medica Medianae* 2011;50(1):51-53.

**Key words:** surgicel, kidney, allograft obstruction

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**Introduction**

Surgicel (Johnson & Johnson Medical, New Brunswick, NJ) is widely accepted material used as a haemostatic, bactericidal and serous adhesion-reducing agent. It is D-glucuronic and D-glucose polymer with strong oxidation capacity (1). During the interaction with blood, its component cellulose stimulates the thrombi formation. It also reduces the postoperative surgical adherences of the serosa surfaces (2). Despite the fact that manufacturer recommends its temporary use, it is usually left in situ regarding a high level of reabsorption (3).

A variety of complications caused by Surgicel have been described in the literature. We present a case of kidney allograft ureteral obstruction secondary to Surgicel.

**Case report**

A 36-year-old female patient received the first living donor kidney allograft at the Institute of Urology and Nephrology of Clinical Center of Serbia in Belgrade. She was evaluated according to standard diagnostic protocol of the Institute. Standard allograft revascularization was established by end-to-end internal iliac to renal artery and end-to-side renal to external iliac vein. Urinary tract continuity was established by Lich-Gregoir extravasical ureteroneocystostomy. Immunosuppressive therapy included triple protocol with cyclosporine, azathioprine (or MMF) and pronison. The patient was under permanent monitoring. During the late postoperative course (after 1st month), a few weeks after DJ stent extraction, the presence of grade II-III hydronephrosis was detected during a routine ultrasonographic examination. Along with hydronephrosis, a mild deterioration of renal function had developed. A patient had fever and pain in the region of the transplant. Immediately, a diagnostic procedure was performed, including complete blood count, coagulation screening tests, biochemical analysis, ultrasonography with CDI, plain abdominal radiography and CT scan. Since Surgicel was placed at the posterior allograft surface during the operative procedure and diagnostic investigation, all intrinsic and extrinsic causes except surgicel were excluded. Following the placement of nephrostomy tube, renal function recovered and symptoms disappeared. Antegrade pyeloureterography presented obstructive subpyelical ureteral segment. Afterwards, a reexploration and drainage with surgical removal of Surgicel along with a part of the surrounding tissue was performed (Figure 1). The allograft and ureter were preserved (Figure 2). During the postoperative course, antegrade pyeloureterography at day 11th showed no obstruction. The nephrostomy tube was removed.

**Discussion**

The reported incidence of ureteral obstruction after kidney transplantation varies between 1.3% and 10.2% in large series. It is mainly related to intrinsic obstruction (4-8).
Numerous Surgicel-complicating cases have been described in the literature. In 1949, “Oxycel retention syndrome” with fatal outcome was described (9). Also, incomplete reabsorption of the material and bacterial colonization have been reported (10). It is well-known that inflammatory reactions develop secondary to foreign bodies. The same mechanism is activated by Surgicel. Foreign body appearing lesions are morphologically classified in two types. The first type are similar to those induced by implants. Such lesions are always associated with relevant macroscopic changes. The second type of lesions induce massive macroscopic changes similar to abscess, inflammatory pseudotumor or invasive carcinoma.

Histologically, it is represented by granulomatous lesion with fibrosis and necrosis. Since the histological and radiological findings are not specific, the changes induced by Surgicel usually lack (11). Renal allograft nephrectomy secondary to xantogranulomatous pyelonephritis caused by Surgicel 22 months after the procedure have been describe (11).

In our report, in the patient with extrinsic ureteral obstruction by Surgicel, an excellent therapeutic outcome was attained and the allograft was preserved. The operative finding suggested that reactive periureteral and perigraft inflammation still had not produced extensive fibrosis. It demonstrates that early recognition of inflammatory-induced ureteral obstruction and timely and appropriate therapeutic procedures are of the utmost importance for successful treatment.

We should emphasise that in certain cases, complete operative documentation and description of the procedure are the key of success. It is necessary to establish good cooperation between all participants in the procedure in order to reduce morbidity and lethality rates and to achieve the best possible outcome.

References

OPSTRUKCIJA TRANSPLANTIRANOG BUBREGA UZROKOVANA SURGICEL-OM

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Ključne reči: surgicel, bubreg, opstrukcija transplantiranog bubrega