




## Implantation of Nellix system in treatment of type IIIA leak in patient with stent graft of abdominal aorta

### Implantacja systemu Nellix w leczeniu przecieku typu IIIA u chorego ze stentgraftem aorty brzusznej

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#### STRESZCZENIE

Chory 50-letni, po implantacji stentgraftu Jotec do aorty brzusznej w 2014 r., pozostający pod stałą opieką Poradni Chorób Naczyń Wojewódzkiego Szpitala Specjalistycznego nr 4 w Bytomiu, zgłosił się na oddział z podejrzeniem przecieku typu IIIA. Obecność przecieku potwierdzono w badaniu angio-TK. Na podstawie wykonanych badań chorego zakwalifikowano do implantacji systemu Nellix do stentgraftu Jotec. Operowany 19.10.2017 r. Przebieg operacji bez powikłań, po implantacji w kontrolnej aortografii bez cech przecieku. W kontrolnym angio-TK miesiąc po leczeniu operacyjnym nie uwidoczniło przecieku, stenty systemu Nellix prawidłowo ułożone. Aktualnie pacjent przebywa w warunkach domowych, w stanie ogólnym dobrym. Ustalono termin kontroli, w tym ultrasonograficznej.

#### SŁOWA KLUCZOWE

stentgraft, system Nellix, przeciek

#### ABSTRACT

A 50-year-old patient after implantation of a Jotec stent graft in the abdominal aorta in 2014, under the constant care of the Outpatient Clinic of Vascular Diseases, Regional Specialised Hospital No. 4 in Bytom, with a stent inserted into the abdominal aorta in 2014, reported to the ward with suspicion of a type IIIA leak. The presence of the leak was confirmed by angio-CT scan. On the basis of the scan the patient was qualified for implantation of the Nellix system into the Jotec stent and was operated on 19th October 2017. The procedure was carried out without any complications. The check-up angio-scan showed no leak whatsoever. Another angio-CT scan was performed a month later and showed no evident leak with the Nellix system stents placed correctly. At present the patient remains at home in good general condition. The date of another check-up including an ultrasound scan has been set.

#### KEY WORDS

stent graft, Nellix system, leak

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A 50 year-old patient was accepted to our Clinic in emergency on 3rd June 2014. The patient had had emergency surgery of an abdominal aortic aneurysm with a 30 mm Jotec stent implanted into an infra-renal abdominal aorta from access through the femoral arteries together with a 30 mm aortic calf extension inserted at the ostium of the renal arteries. An angio-CT scan performed in 2014 initially showed widening of the aorta along a 102 mm section with an aneurysm of a maximal diameter of 74 mm beginning 16 mm below the renal arteries and peripherally reaching the division of the aorta into the iliac arteries. The patient, who had regular check-ups in our Outpatient Clinic of Vascular Diseases with angio-CT scans a month and a year after the surgery, showed no leak, with a maximal aneurysm diameter of 73 mm and normal blood pressure regularly checked (Fig. 1, 2). In the latest USG CD scan on 13th October 2017 before sending the patient to the ward, an aneurysm diameter progression of 10 x 8 cm was diagnosed. Upon admission to the ward the patient was cardiopulmonary compensated, in good general condition, with normal peripheral blood morphology and normal creatinine. A check-up angio-CT scan confirmed the ultrasonography scan result of the diagnosis of a type IIIA leak (Fig. 3). The decision was

made to qualify the patient for implantation of the Nellix system into the Jotec stent. The surgery took place on 19th October 2017. Under ductal anaesthesia, divisions of the common femoral arteries were prepared bilaterally, the delivery system was inserted, and after carrying out aortography separation of the stent graft elements was confirmed. The distal module of the Jotec stent followed by the proximal one were catheterized from both groins. The Nellix system stents were chosen, inserted and deployed. After applying polymer, an aortography was performed and showed no leak whatsoever (Fig. 4, 5). The laboratory check tests showed no significant deviations. The patient was released from hospital on the 4th day after the surgery. A check-up angio-CT scan performed a month after the surgery showed no evident leak, with the stents correctly placed (Fig. 6, 7). At the moment the patient remains at home, in good general condition. The date of another check-up including an ultrasound scan has been set.

Implantation of the Nellix system is one of the methods to treat an abdominal aortic aneurysm. The case presented above indicates that the Nellix system can also be a tool to treat complications after a previous stent implantation.

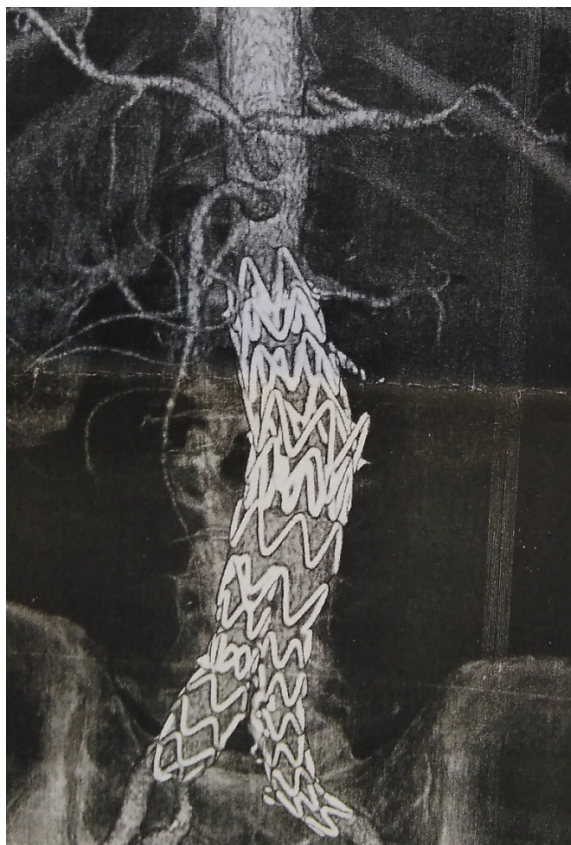


Fig. 1.

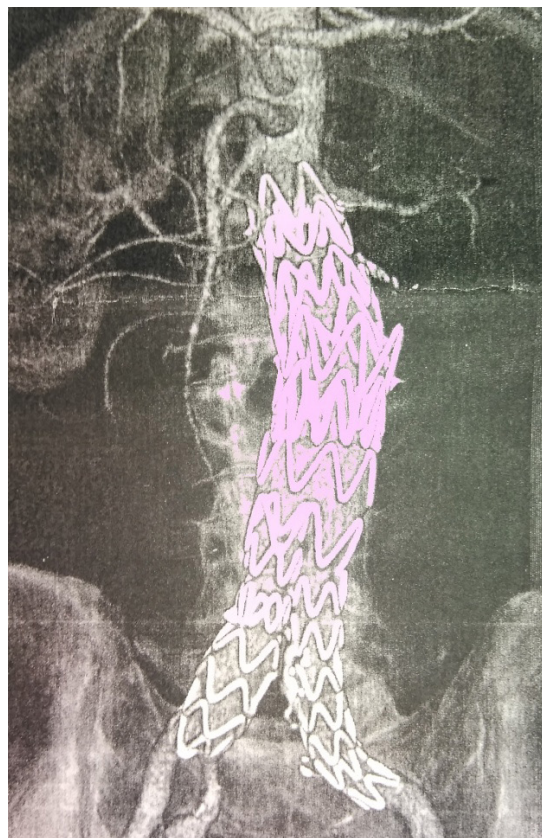
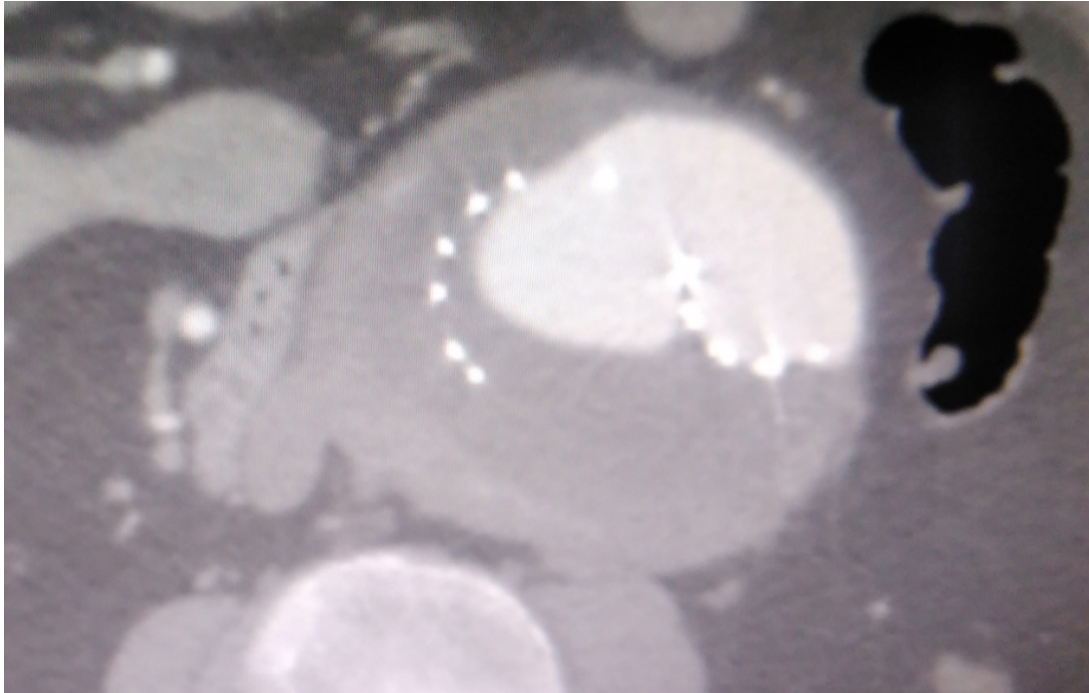


Fig. 2.

Endoleak type III after stent graft implantation.  
(Przeciek typu III po implantacji stentgraftu).



**Fig. 3.** Endoleak type III after stent graft implantation.  
(Przeciek typu III po implantacji stentgraftu).



**Fig. 4.**



**Fig. 5.**

Condition after Nellix system implantation.  
(Stan po implantacji systemu Nellix).





Fig. 6.

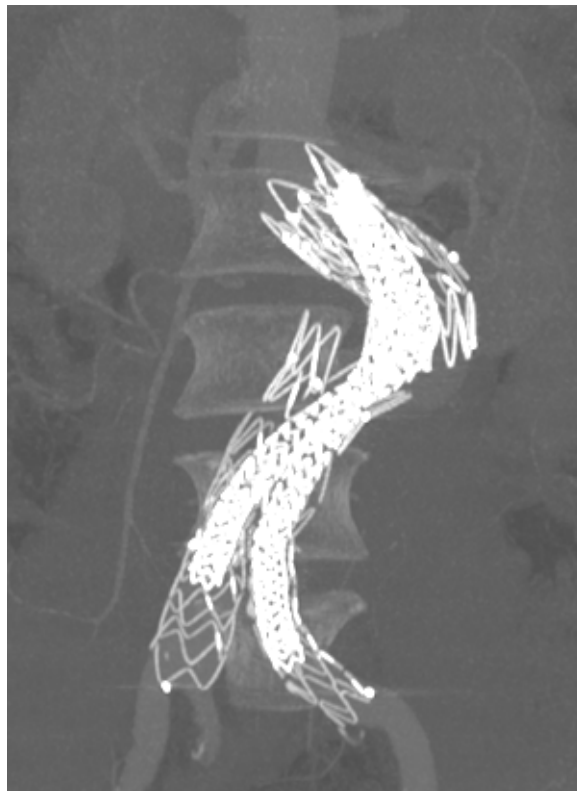


Fig. 7.

Condition after Nellix system implantation.  
(Stan po implantacji systemu Nellix).

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**Author's contribution**

Study design – R.M. Ratman (80%), J. Kuśmierz (10%), S. Wojczyk (10%)

Manuscript preparation – R.M. Ratman (80%), J. Kuśmierz (10%), S. Wojczyk (10%)

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