



Aortic Sentinel Node Transperitoneal Detection in Endometrial Cancer and Horseshoe Kidney

Ane Bombin, Mikel Gorostidi Pulgar*, Olaia Aristegui, Arantxa Lekuona and Irene Diez

Department of Obstetrics and Gynecology, University Hospital Donostia, Spain

Short Comunication

A 57-year-old woman referred to our department with suprapubic pain and post menopause bleeding, diagnosed on endometrial biopsy with a G1 Endometrial Carcinoma (EC). MRI shows less than 50% myometrial infiltration, and no infiltration of cervical stroma, but a horseshoe kidney is incidentally diagnosed.

The most common fusion anomaly is the horseshoe kidney. The reported incidence based upon data from birth defect registries varies from 0.4 to 1.6 in 10,000 live births. But it is difficult to determine accurately since many patients with these abnormalities are undiagnosed, especially if they are asymptomatic.

A total laparoscopic hysterectomy with double salpingo-oophorectomy was planned. Sentinel node dissection was performed as part of our institutional research protocol, approved by local IRB and consent inform signed. In our research protocol a double injection technique in the uterine fundus (transcervical) and in the cervix (superficial and deep, 3 and 9h) is performed with Green IndoCyanine (ICG). Cervical injection is performed due to its best detection rate, but also a fundal injection is performed to detect aortic pathways as we have already described.

Low risk EC have excellent outcomes, with high disease free survival and overall survival. But nodal and distant relapses have por prognosis. It´s under research that not detected metastasis or micrometastasis could be the answer for relapses in this population. Aortic metastases are probably very low in this setting, although its value could be more important in high risk EC [1]. The research of our institution is designed to answer this question [2].

A Full HD Image 1S with ICG camera system from Karl Storz (Karl Storz Endoscopy, Mittelstrasse, Tuttlingen, Germany) was used for ICG detection with Near Infra Red (NIR) system.

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*Correspondence:

Mikel Gorostidi, Department of Obstetrics and Gynecology, University Hospital Donostia, Spain, Tel: 34943007000;

E-mail: mgorostidi@sego.es

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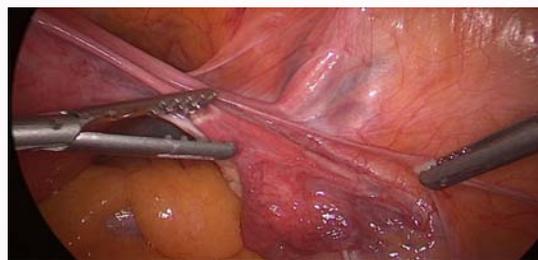


Figure 1: Right infundibulo-pelvic ligament with HD Chroma vision (SPIES- Storz Professional Image Enhancement System, STORZ).



Figure 2: Right Infundibulo-pelvic lymphatic pathway under Near Infra Red (NIR) vision with SPIES system.

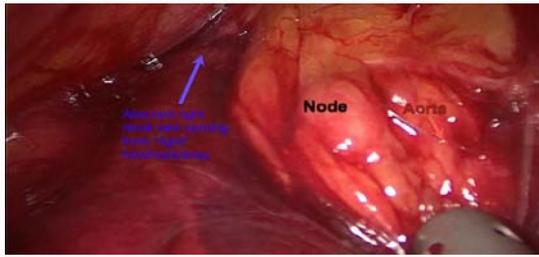


Figure 3: Identification of an enlarged node above Aorta thanks to ICG and NIR vision.

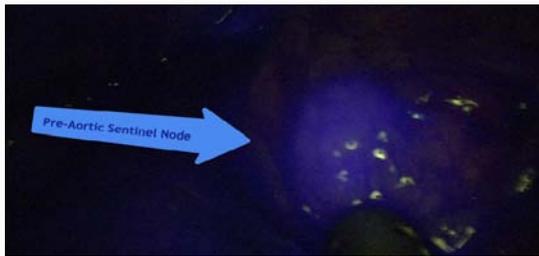


Figure 4: Same node of the previous picture under NIR vision.

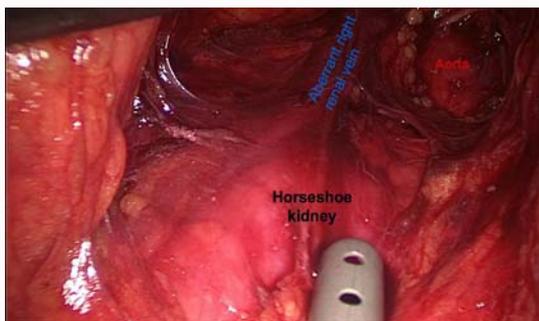


Figure 5: Horseshoe kidney above great vessels, aberrant right renal vein coming from "right" horseshoe kidney and aorta. Note that the peritoneal tent is lifted up and the excised site of the aortic SN is easily viewed above the aorta.

A horseshoe kidney above the aorta greatly complicates lymph node dissection at this level and it's a challenging situation, especially if a complete lymph node dissection is necessary. Several abnormalities in the position, rotation, and vascular supply of the kidney have been described [3]. It's not possible to follow infundibulopelvic lymphatic pathway due to horseshoe kidney in this patient, but a clear ICG stained infundibulopelvic drainage [4] system and a clear aortic sentinel node (SN) is detected. Finally 4 SN are detected, with positive bilateral pelvic detection (1 left external iliac SN, 1 right obturator SN and 1 right external iliac SN) and aortic detection (1 supramesenteric mesenteric aortic SN).

Definitive histology was an IB G1 EC and all sentinel nodes negative.

Aortic SN mapping is feasible even in a horseshoe kidney EC patient.

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