ENDOMETRIOSIS: HELPING THE SURGEON THROUGH HIGH RESOLUTION NUCLEAR MAGNETIC RESONANCE (HDNMR) IMAGING

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Objetives

To help surgeons adequately program laparoscopic surgeries (LPCY) using high resolution nuclear magnetic resonance (HRNMR) adquired images

Design

Teaching poster deploying HRNMR images and laparoscopic photos, stating correlations between imaging and surgical findings in a classified order.

Material and methods

Fifty women with ages between 15 and 51 years were studied with HRNMR using a GE Signa HDXT 1,5 T device from 2012 to 2016. . Intraoperative photos of the same patients were obtained. Patient preparation previous to HRNMR included a saline enema, N- butilbromure hyoscine and four hour fasting.

MRI sequencies: T2 axial, coronal, sagital. T1 FS axial y sagital, with intravaginal and intrarrectal contrast gel.

Images despicting the three major types of the disease, from HRNMR studies and LPCY photos of the same lesions, are presented orderly classified as ovarian endometriomas ⟨OE⟩, peritoneal disease ⟨PD⟩ and deep infiltrating endometriosis ⟨DIE⟩.

In each case comparison includes size and location between HRNMR and LPCY

MRI evaluation

Foto compartimentos

Pelvic images are grouped in three compartments for a better evaluation and understanding; anterior, medial and posterior. All different spaces, walls and áreas of the pelvic anatomy are adequately described.

Three major types of images are presented in the images shown below ; Ovarian endometriomas (OE), peritoneal disease and adhesions (PD), and deep infiltrating endometriosis (DIE)

Results
Correlation is proven and examples facilitate surgeon´s comprehension of the disease they will encounter at LPCY.
Four patients presented PD findings at HRNMR and correlated with LPCY potos : lesions at the bladder uterine cul de sac.
Sixteen cases of fibrotic adherehences were seen.
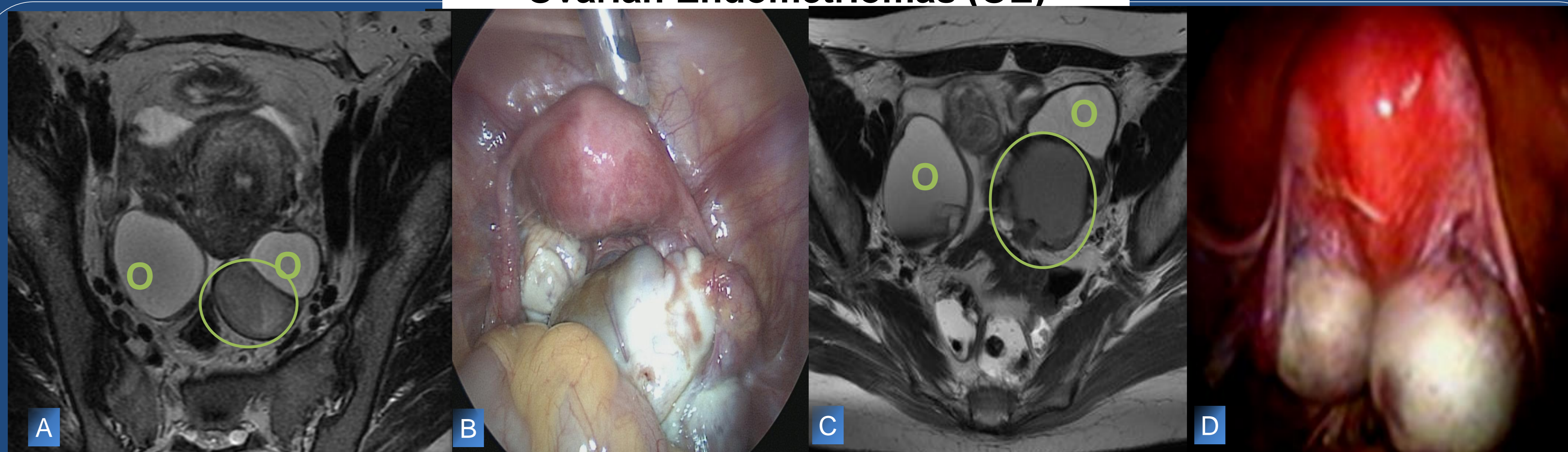Twenty four OE were diagnosed.
In 14 cases, DIE with large bowel infiltration was found.
Five patients presented DIE at bladder level.

Conclusion
HRNMR images and LPCY photos correlate and presented in an orderly fashion allow for better programming of surgeries, for the patient´s benefit.

Ovarian Endometriomas (OE)

•Figures A, B, C & D – axial cuts T2 (A & C) ovarian medialization . with left endometriomas are seen.

•(B & D) macroscopic images where both medialized ovaries, behind the uterus are despicted, with a left ovarian endometrioma. Ovariess (O), endometrioma (círcle).

Large bowel compromise (DIE)
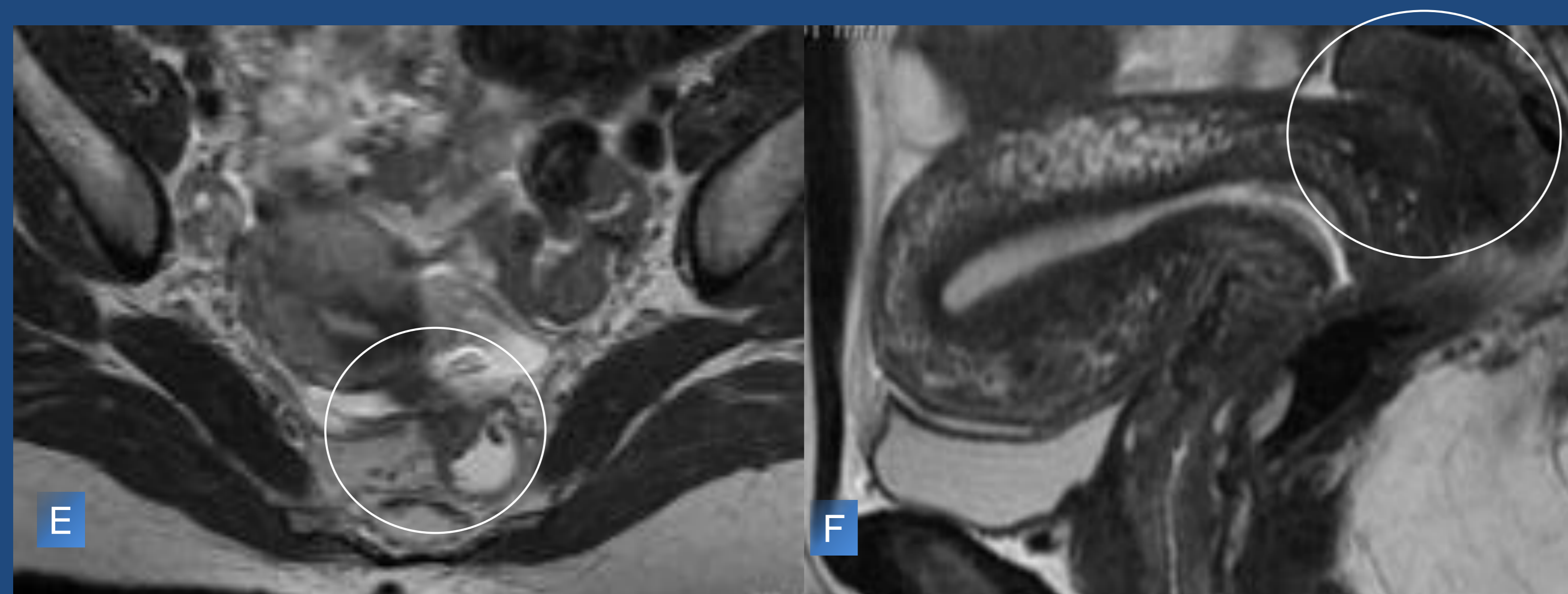
Figures E & F – axial cuts (E) & sagital cuts (F) where retrouterine fibrotic adhesions that pull the large bowel (and infiltrates its Wall) are shown.

Peritoneal Disease (Adherences) (PD)and DIE
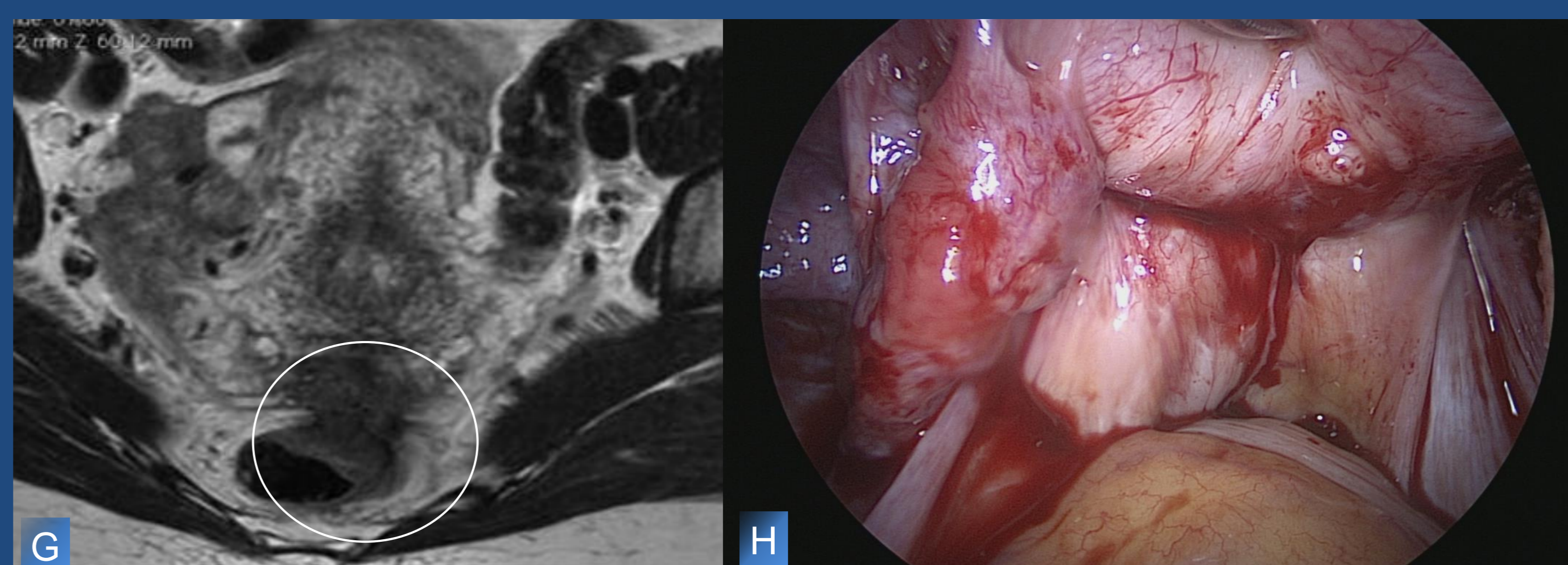
Figures G & H – (G) axial cut T2. Retrouterine endometriotic lesion with multiple adherences associated with large bower infiltration (H) and complete obliteration of the Douglas Pouch.