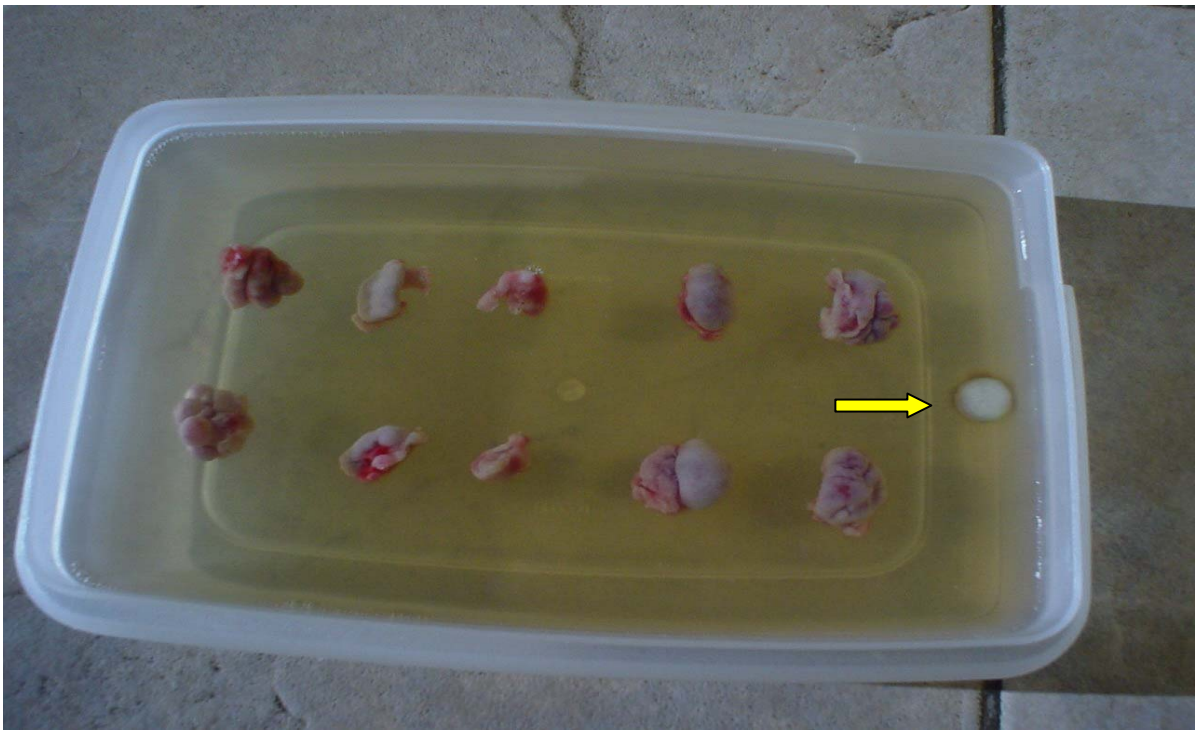
APPENDIX

Figure 1: Two prepared phantoms showing ovaries imbedded in gelatine (the arrows indicate imbedded gelatine capsules used for orientation)



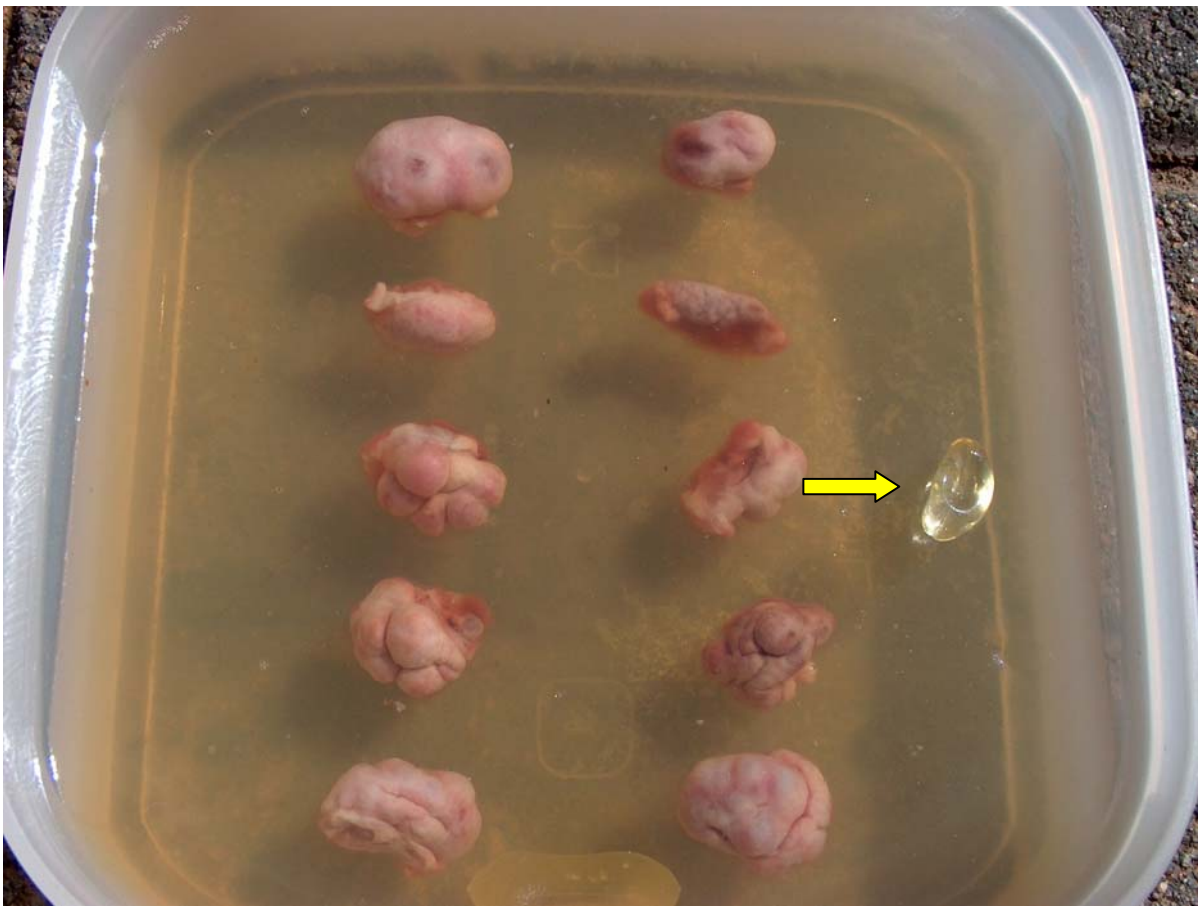


Figure 2: Magnetic resonance image of homogenous gel surrounding an ovary (the arrow points at the division line formed by the contact of the two layers of gel used during preparation)

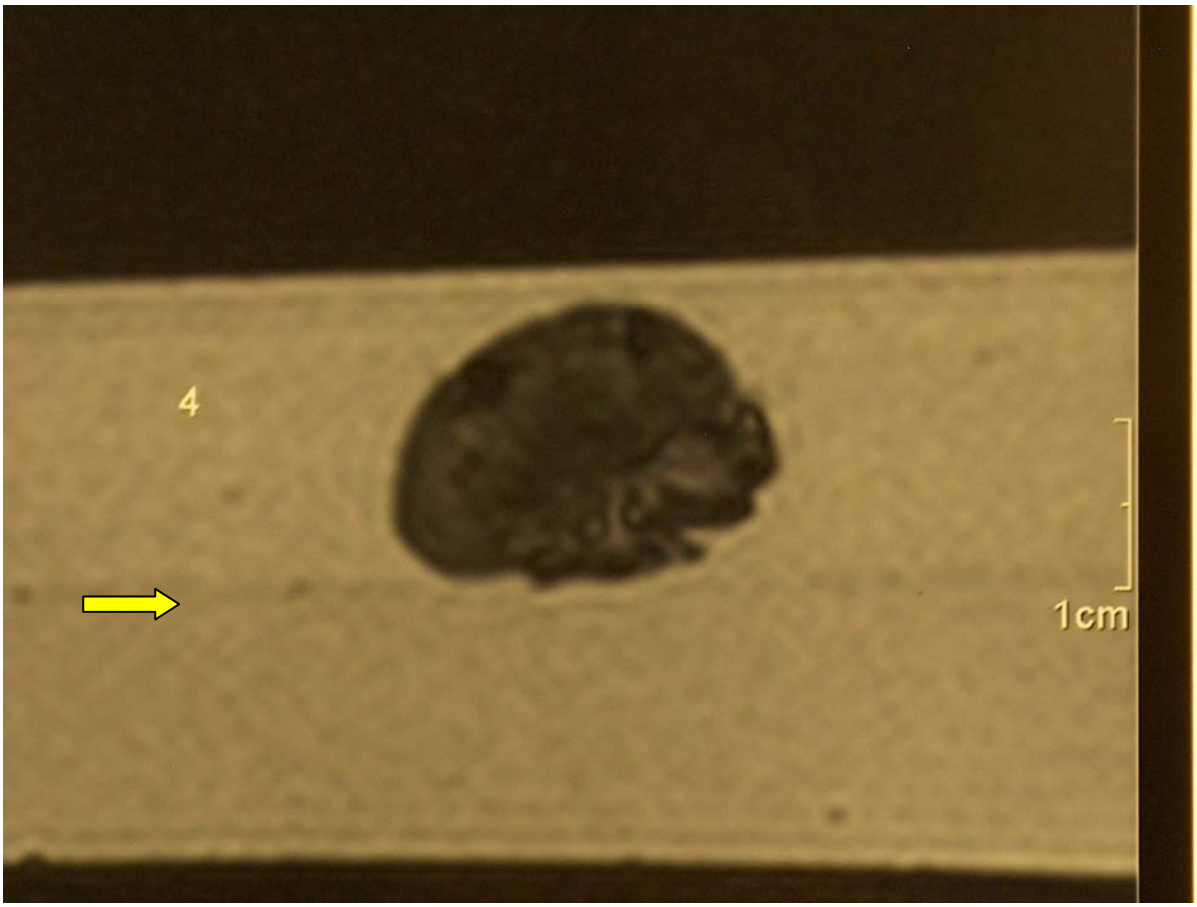


Figure 3: MR image obtained with the FISP localiser in a live dog: This low-zoom image clearly shows the kidneys. The yellow arrow clearly shows the cortico-medulary junction of the kidney. The white arrow indicates the transverse plane through which Figures 5 and 6 were obtained.

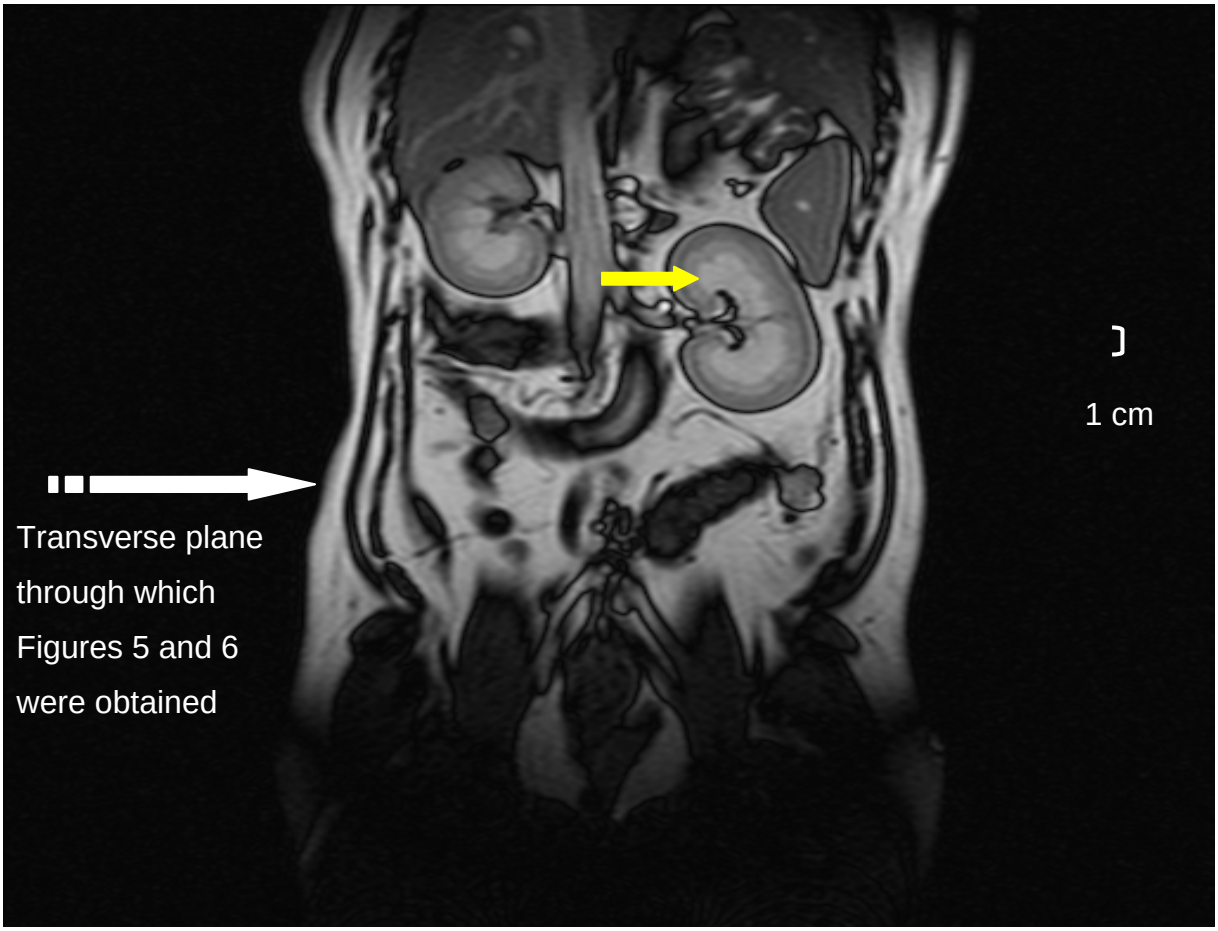


Figure 4: MRI image obtained in the same way Fig 3, but zoomed in. This image clearly shows loss of margin details (white arrows), if compared to Fig 3. The general loss of detail (blurring) is clearly seen in the kidney. In this image, the kidney appears more homogenous and the cortico-medulary junction is no longer discernable as it is in Fig 3.The yellow arrow points towards a structure caudal to the kidney, which is suspected to be the ovary.

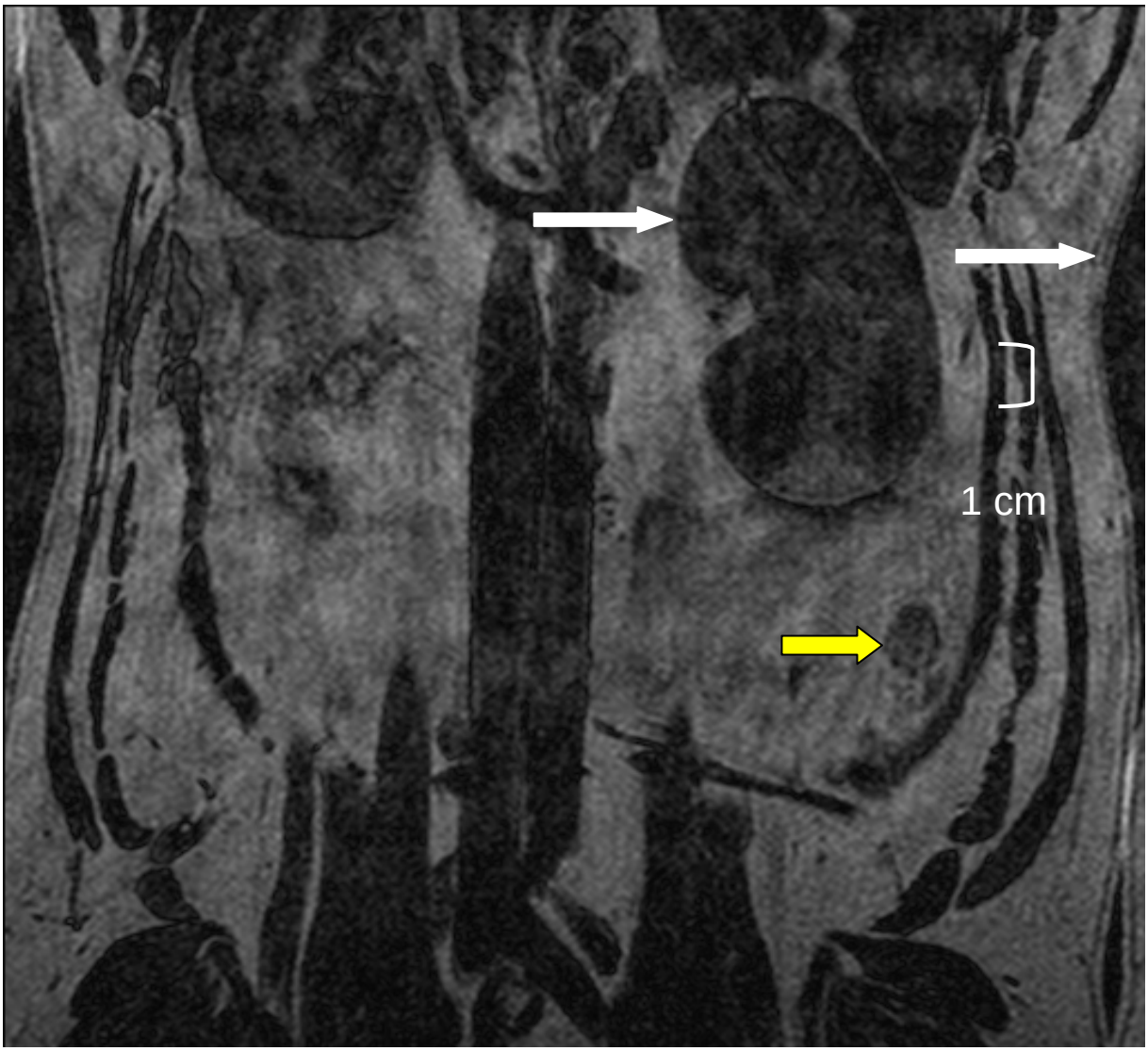


Figure 5: Transverse MR image obtained with the FISP localiser through a transverse plain caudal to the kidneys as indicated in Fig 3. Note that the image is void of detail (blurred) and that no abdominal organs are discernable, particularly in the ventral abdominal area (Yellow arrow). Note that the ghost images (partially brought about by motion) are clearly visible in the dorsal and ventral aspects (White arrows) and almost absent in the lateral aspect of the dog. This is so as most movement, whilst breathing, is believed to have been in this direction.

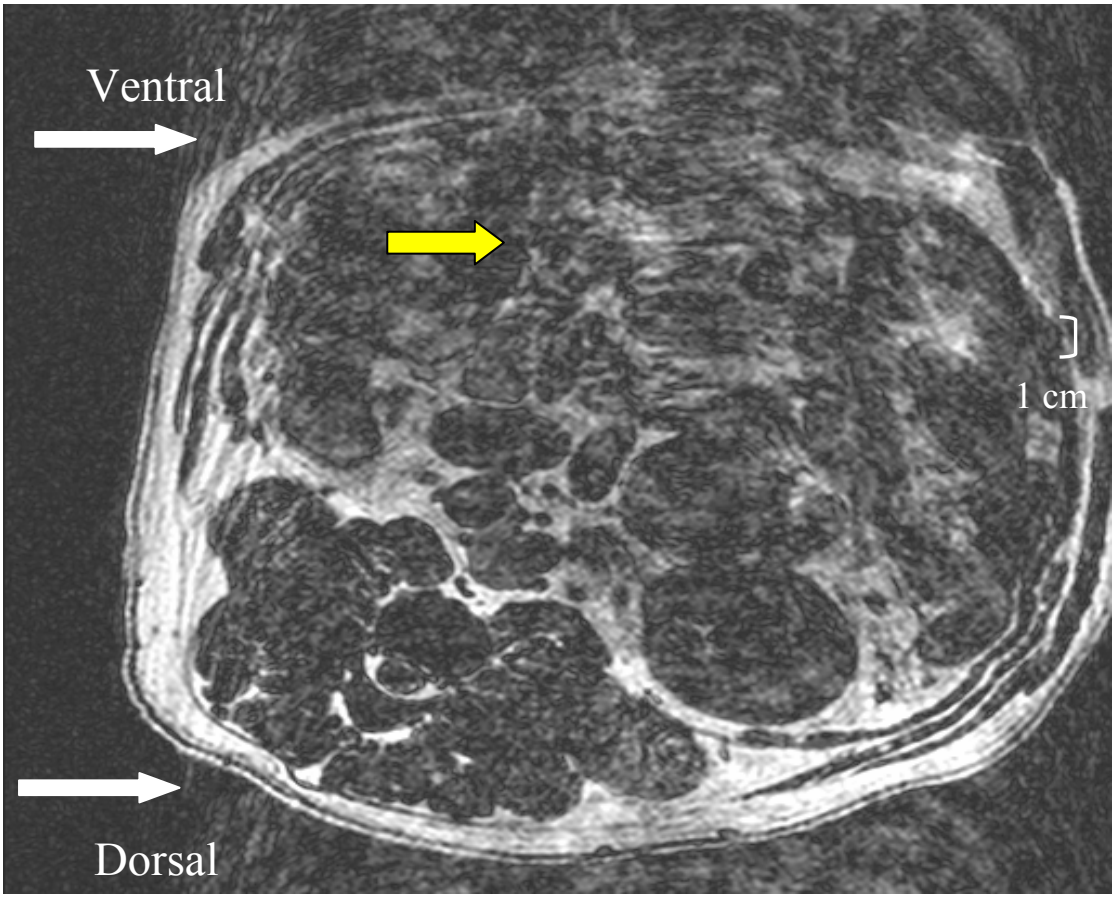


Figure 6: Transverse MR image obtained through a plain caudal to the kidney, as shown in Fig. 3, but zoomed in substantially. This image clearly shows total loss of all detail with no discernable anatomy or structures whatsoever.

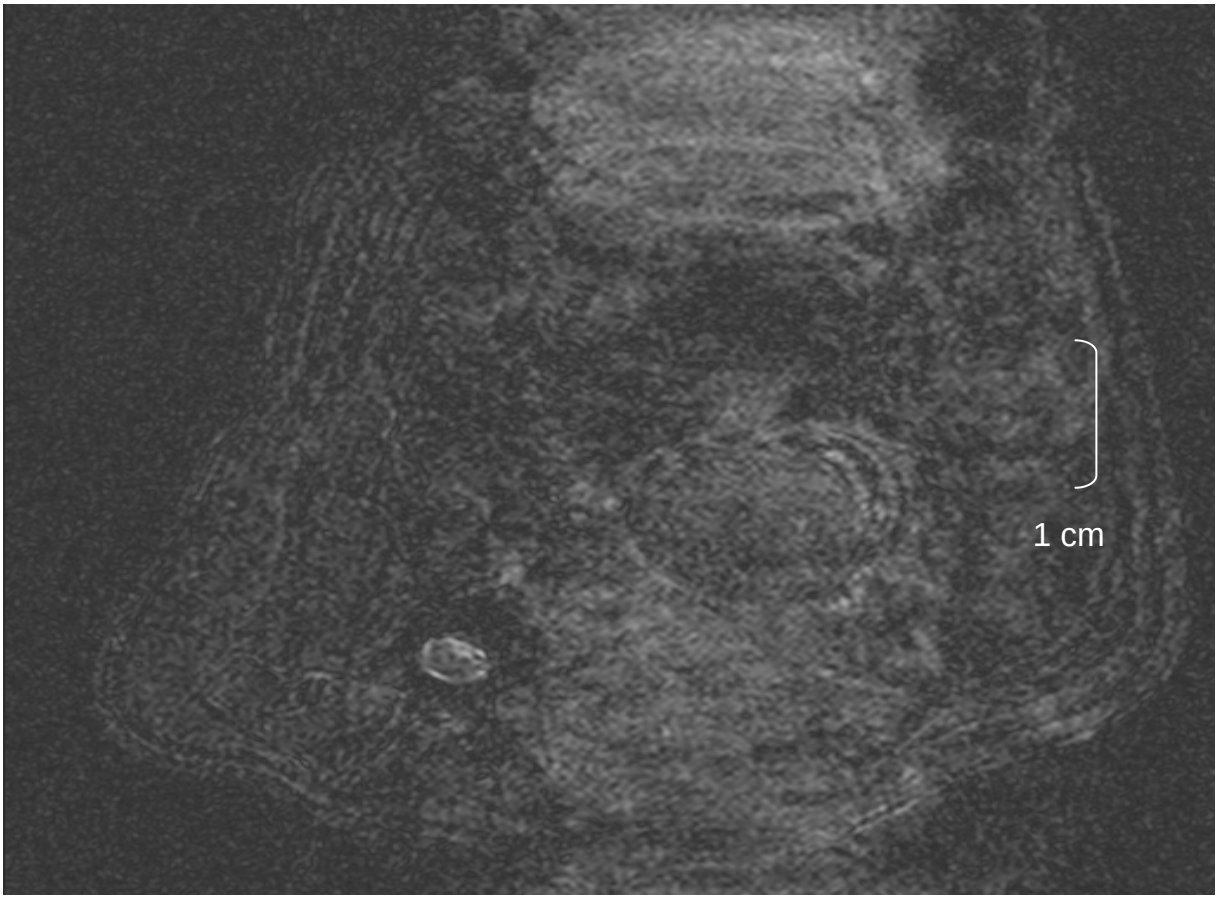


Figure 7: Dissected ovary with three separate corpora lutea, each indicated by a yellow arrow

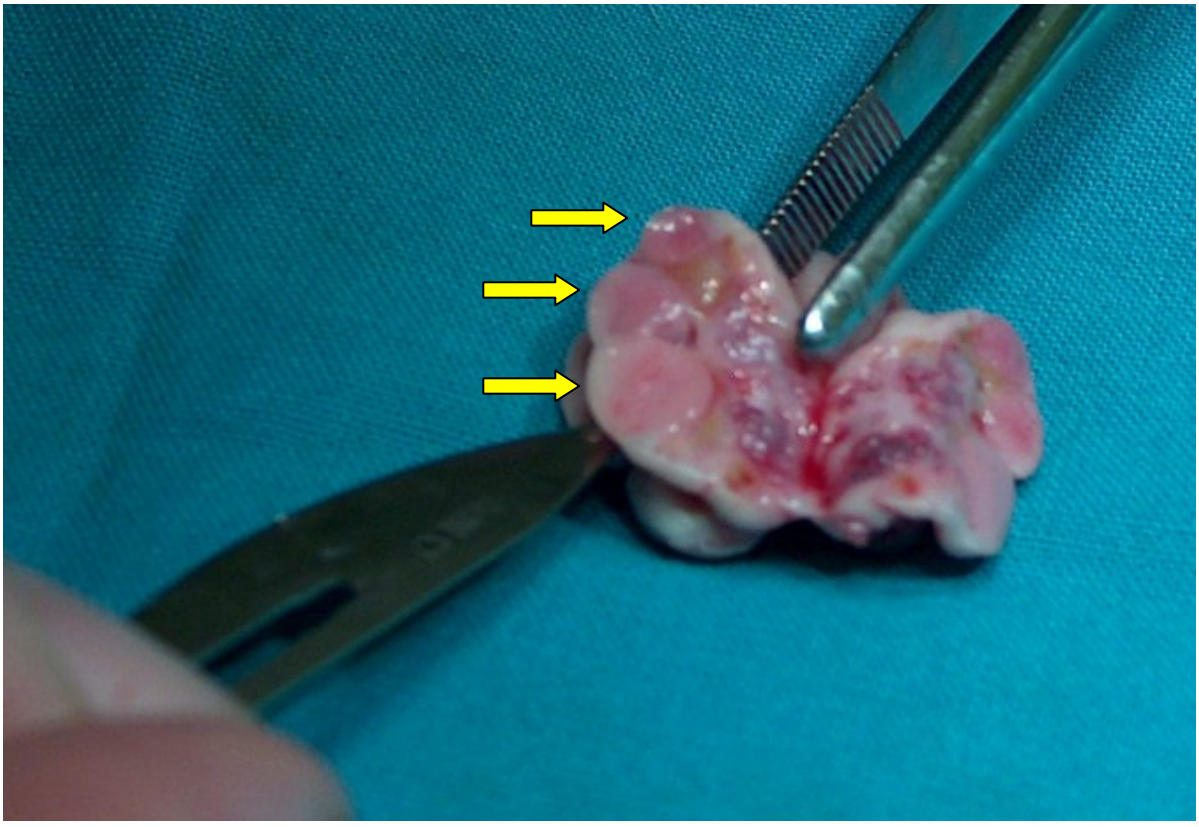


Figure 8: Ovary with thin a walled follicle (periphery indicated by yellow arrows) that collapsed during dissection and which were generally more difficult to count.

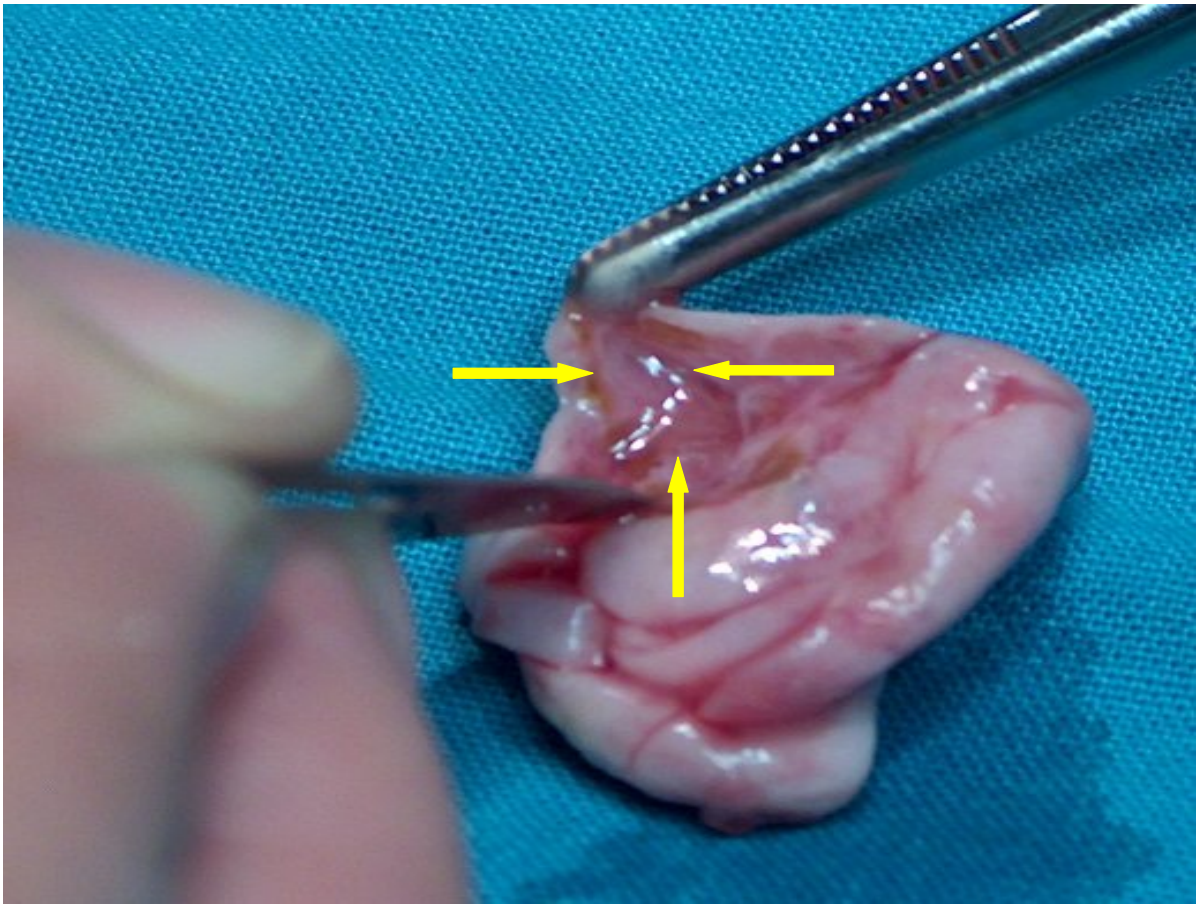


Figure 9: Ovary with partially luteinised and thicker-walled follicles (yellow arrows) that did not totally collapse and were easy to count during dissection.

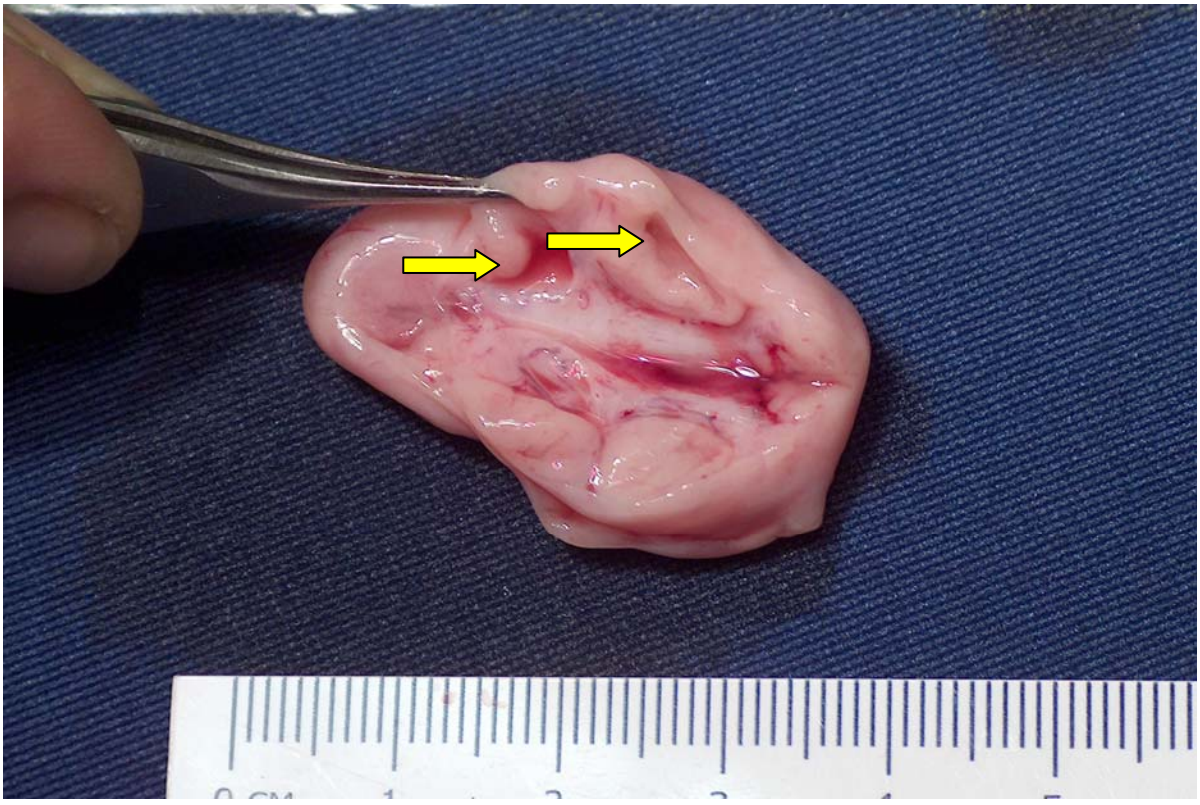


Figure 10: Example of a T_1-weighted MR image of an ovary with follicles. The yellow arrows surround two separate follicles, of which the one is clearer than the other.

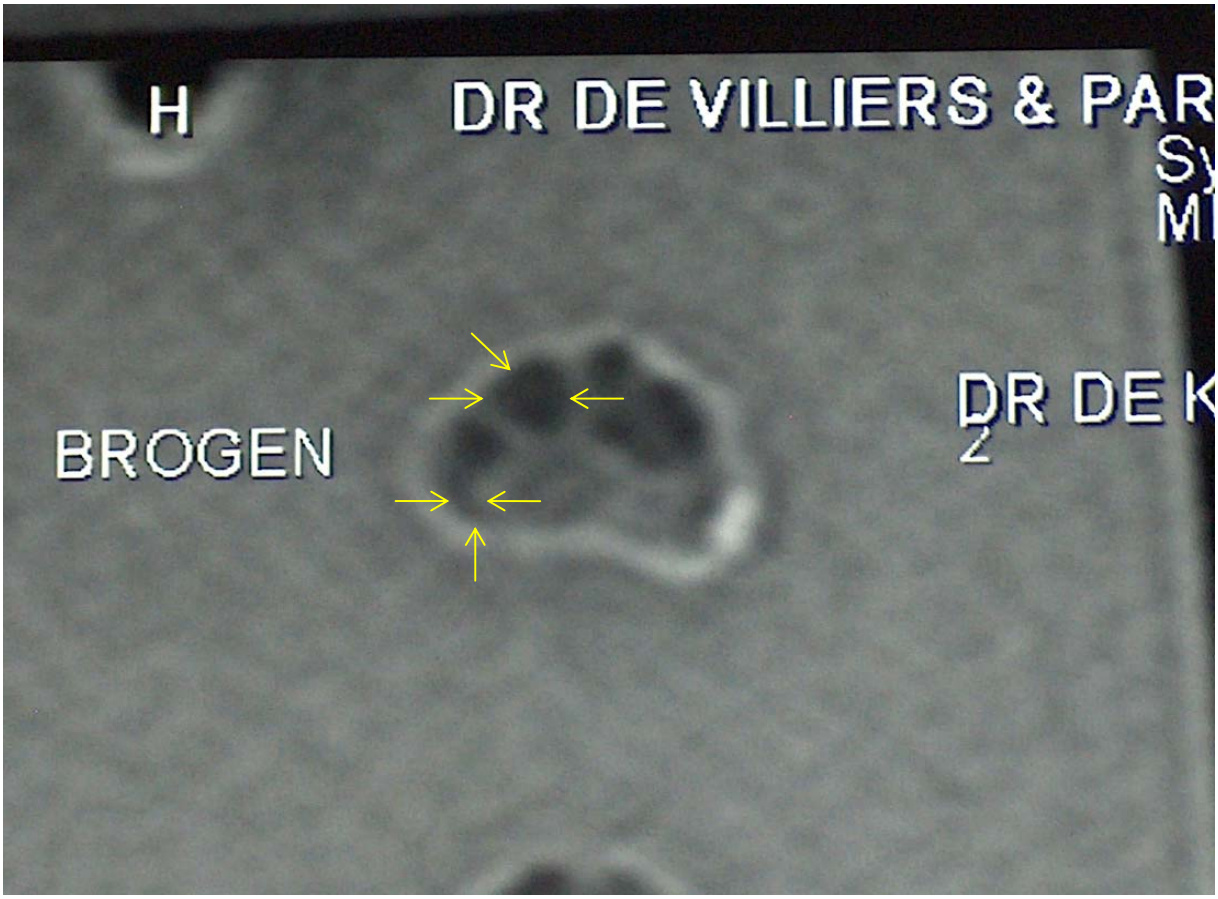


Figure 11: Example of a T_2-weighted MR image of the same ovary as in Fig 10. The yellow arrows surround two separate follicles, of which the one is clearer than the other.

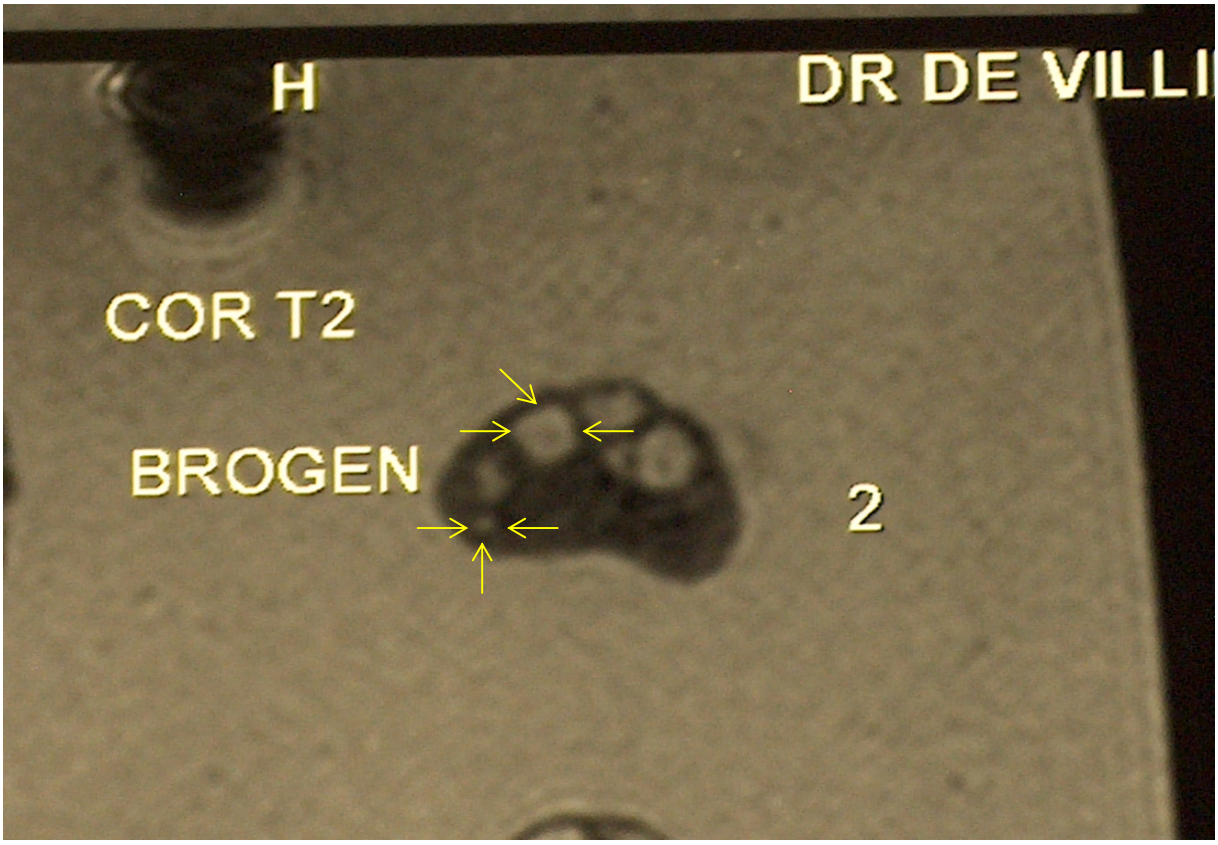


Figure 12: Example of a T_2-weighted MR image where no structures could be identified, but where three corpora lutea were present on dissection

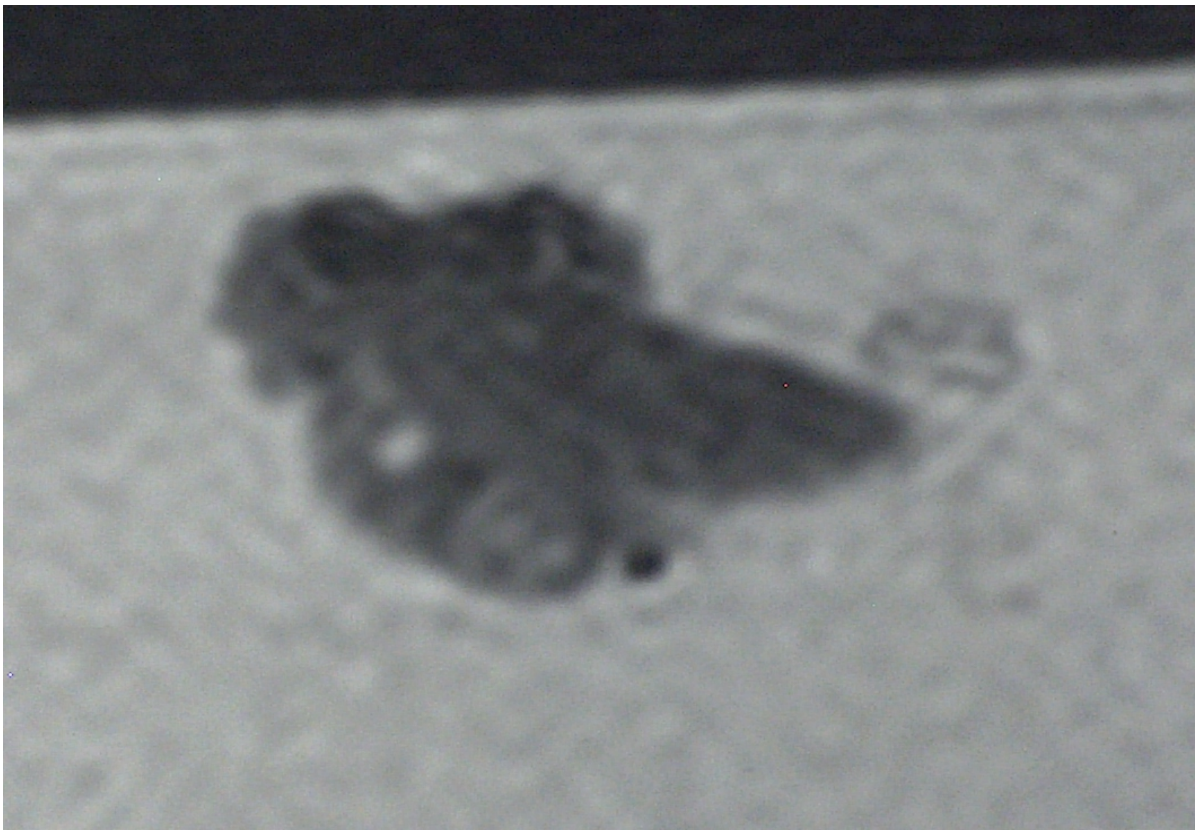


Figure 13: Example of a T2-weighted MR image of an ovary with corpora lutea. (Image obtained with PSIF 3d T_2- time reversed Fast imaging with steady state precession). The yellow arrows surround two separate corpora lutea, of which the one is clearer than the other. The red arrow points at the stromal interface that separates 2 corpora lutea.

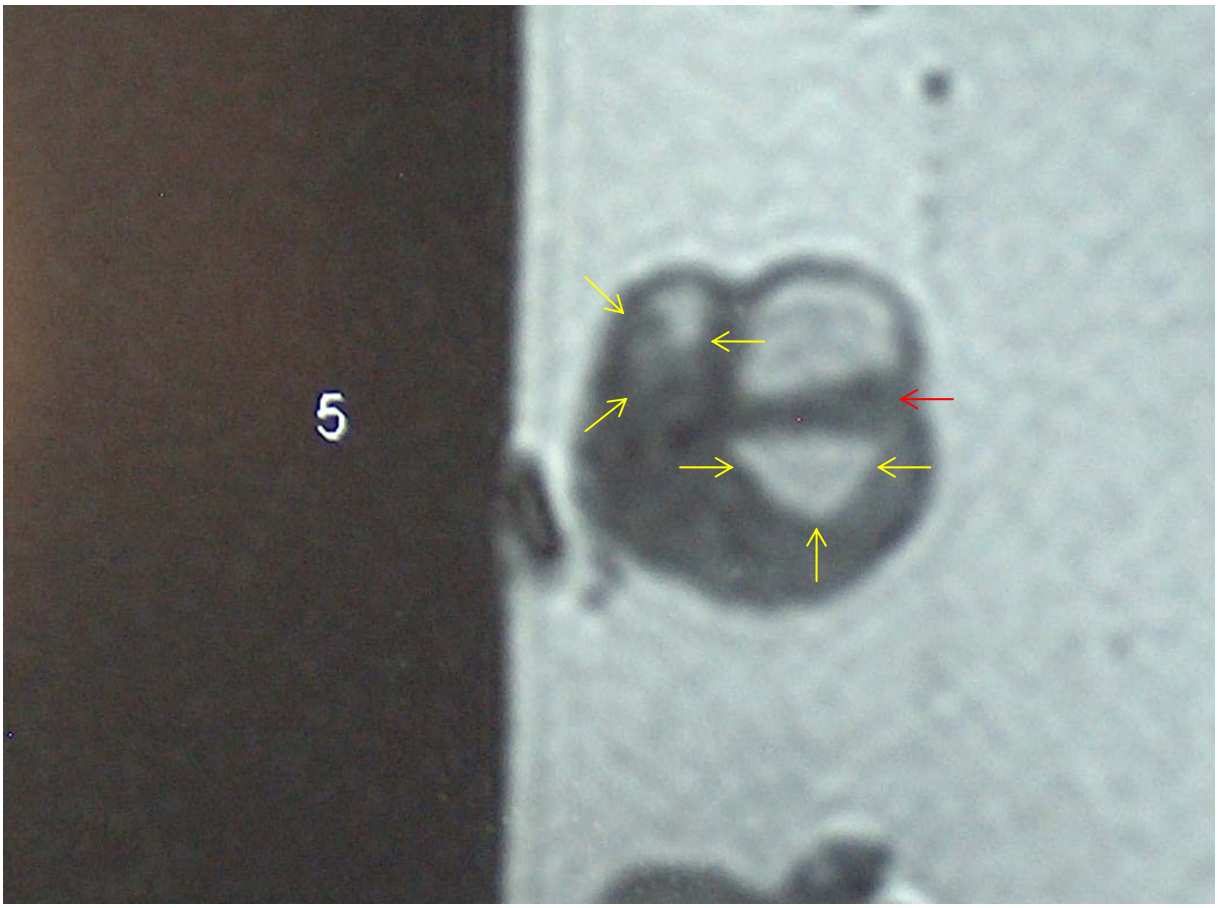


Figure 14: Example of a T_2-weighted MR image of an ovary with follicles. (Image obtained with PSIF 3d T_2 time reversed Fast imaging with steady-state precession). The yellow arrows surround two separate follicles, of which the one is clearer than the other. The red arrow points at the stromal interface that separates 2 follicles.

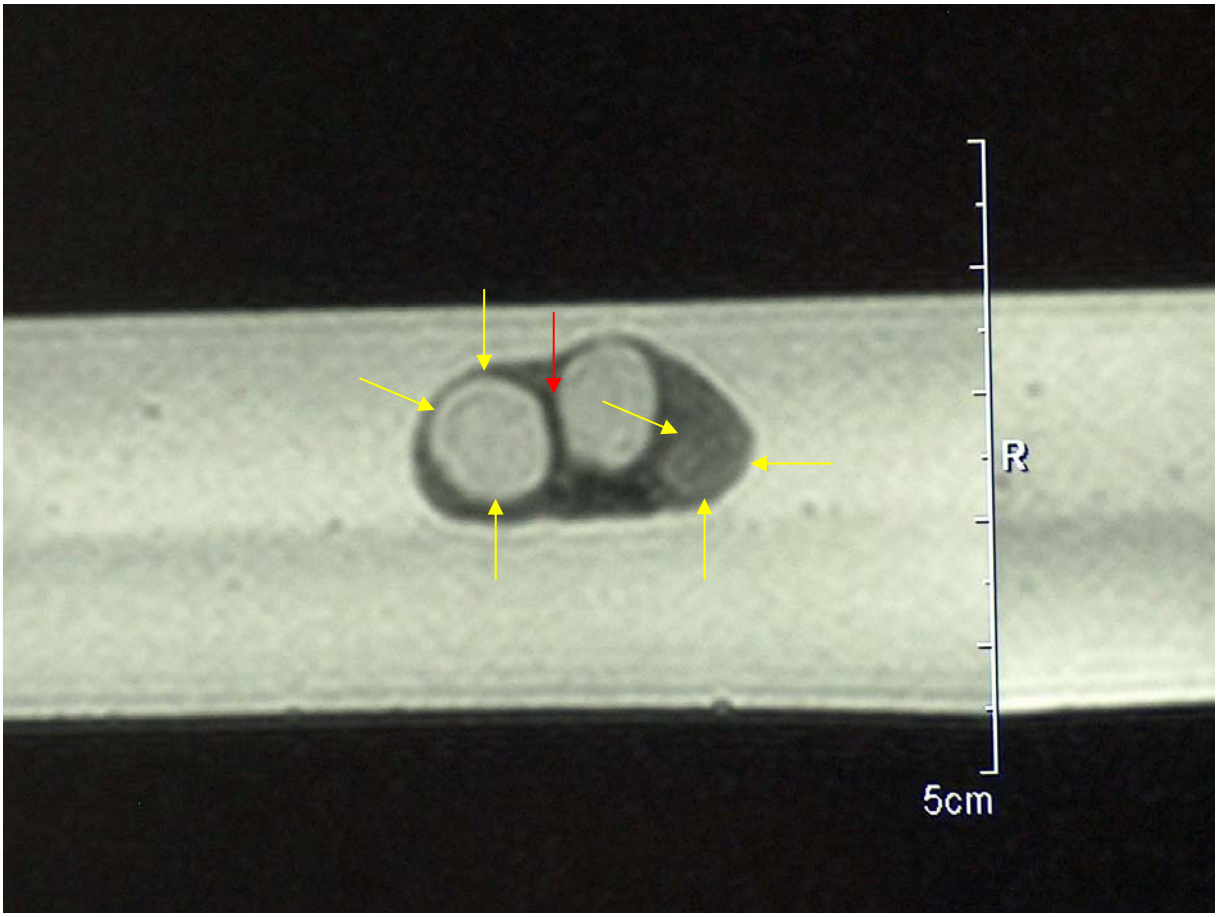


Figure 15: T_2-weighted images of ovaries in a phantom. The yellow arrows surround a follicle (Ovary 2), a late corpus luteum (Ovary 4), an ovarian cyst (Ovary 6) and and early corpus luteum (Ovary 10).

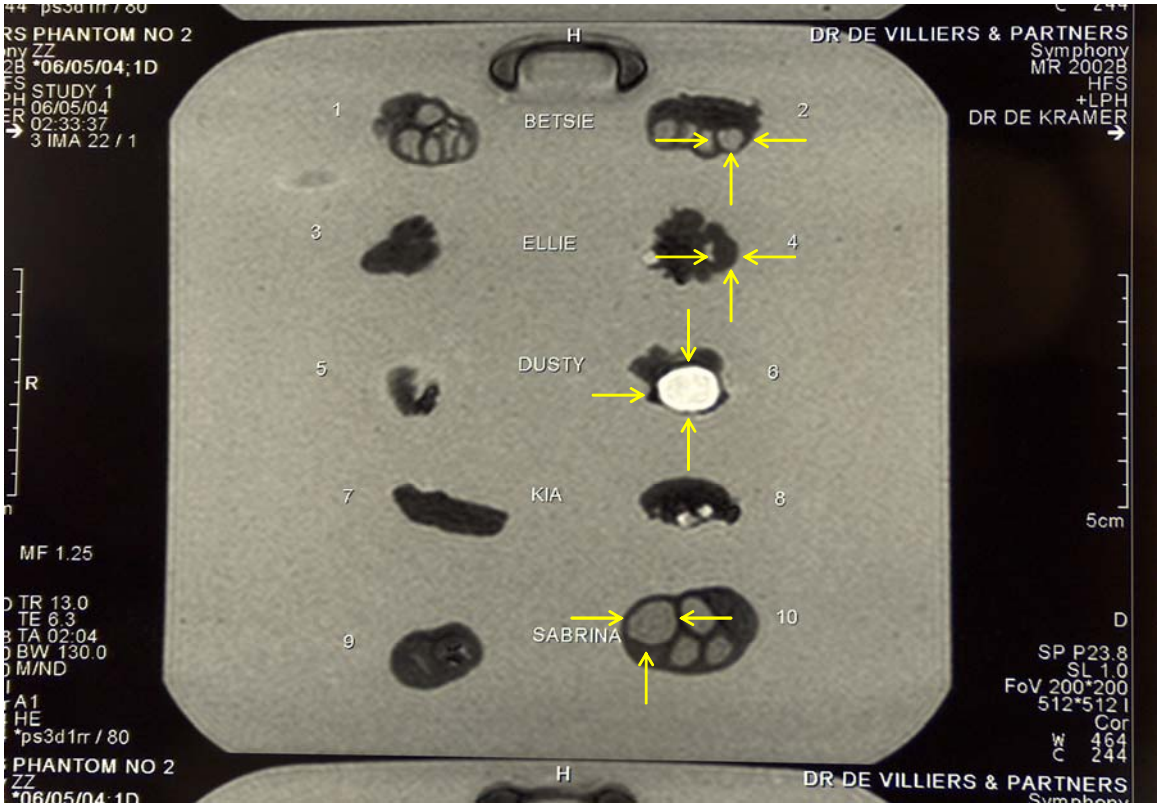
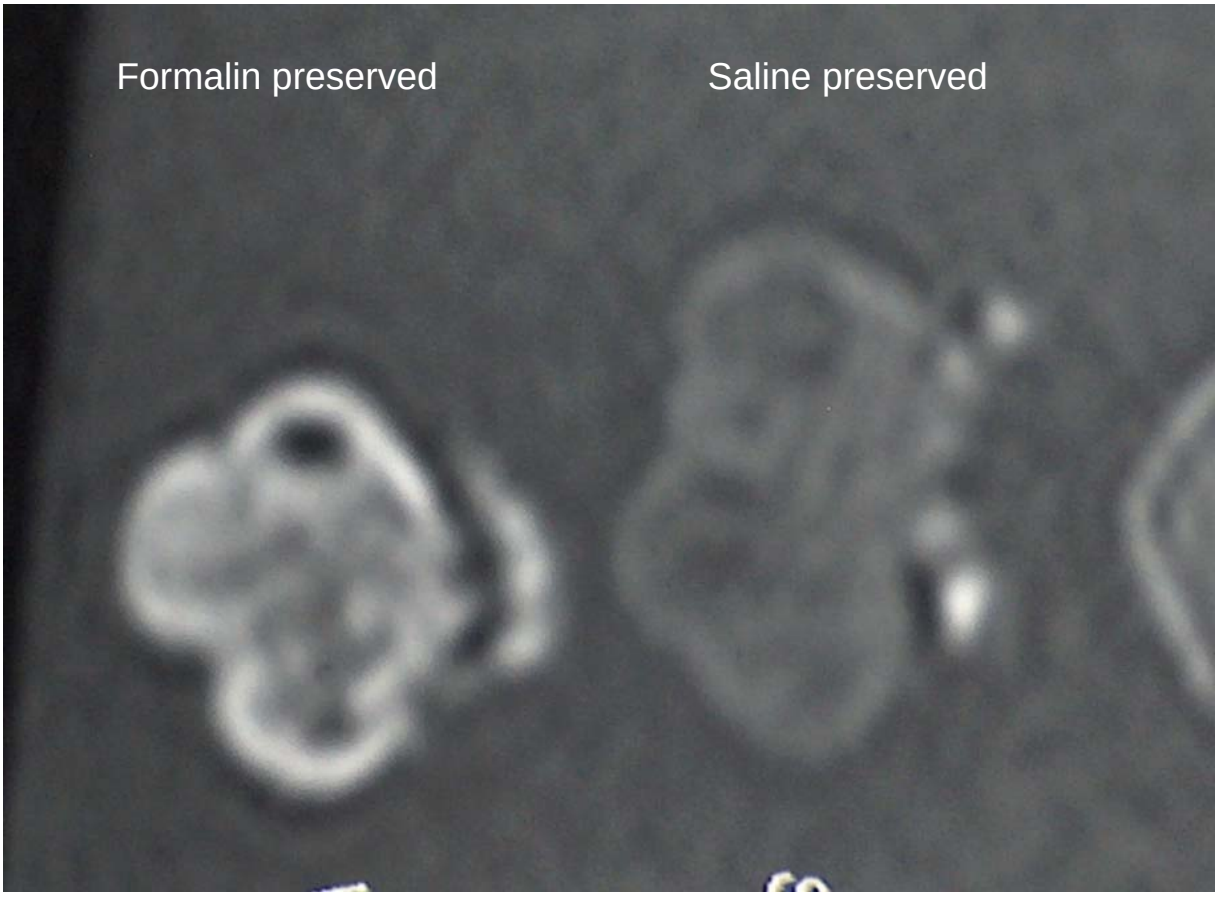


Figure 16: The T_1-weighted MR images of 2 ovaries preserved differently before preparation of the phantom, illustrates clearly the effect (probably dehydration) of the preservation media on the MRI of the ovaries scanned. The ovary on the left was preserved in formalin and the dehydration of the ovary is characterised by the hyperintense appearance of the ovary on MRI, whereas the ovary on the right was preserved in saline and appears hypointense.



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During this and other academic journeys in my life, my wife, Zelda and children, Kyle and Mira, were frequently understanding victims of neglect. I owe them lots, and thank them for their gracious response en-route.

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Finally, I owe gratitude to our Creator whom has given me more than most.