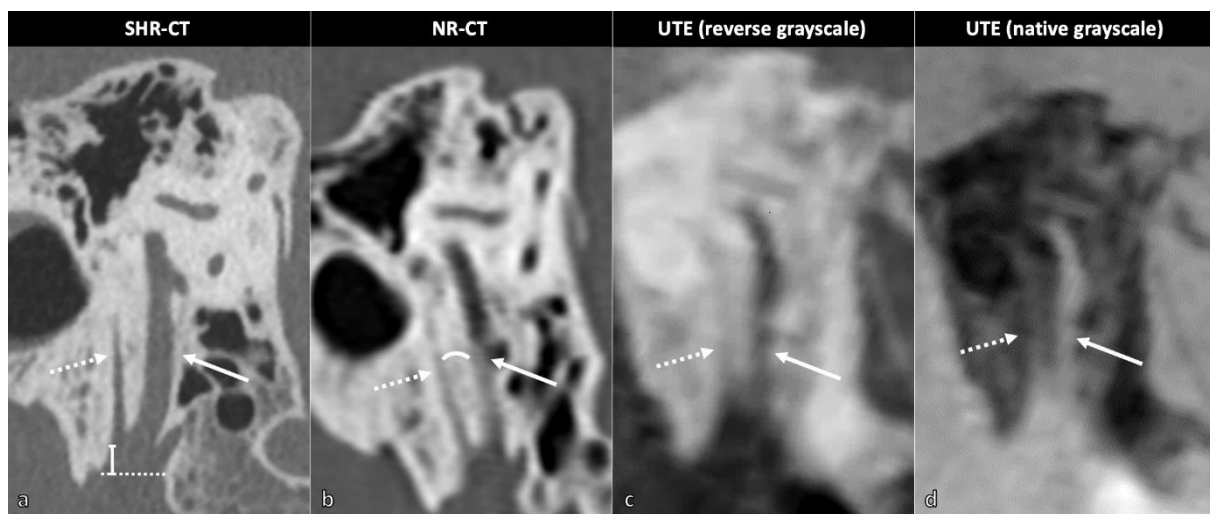
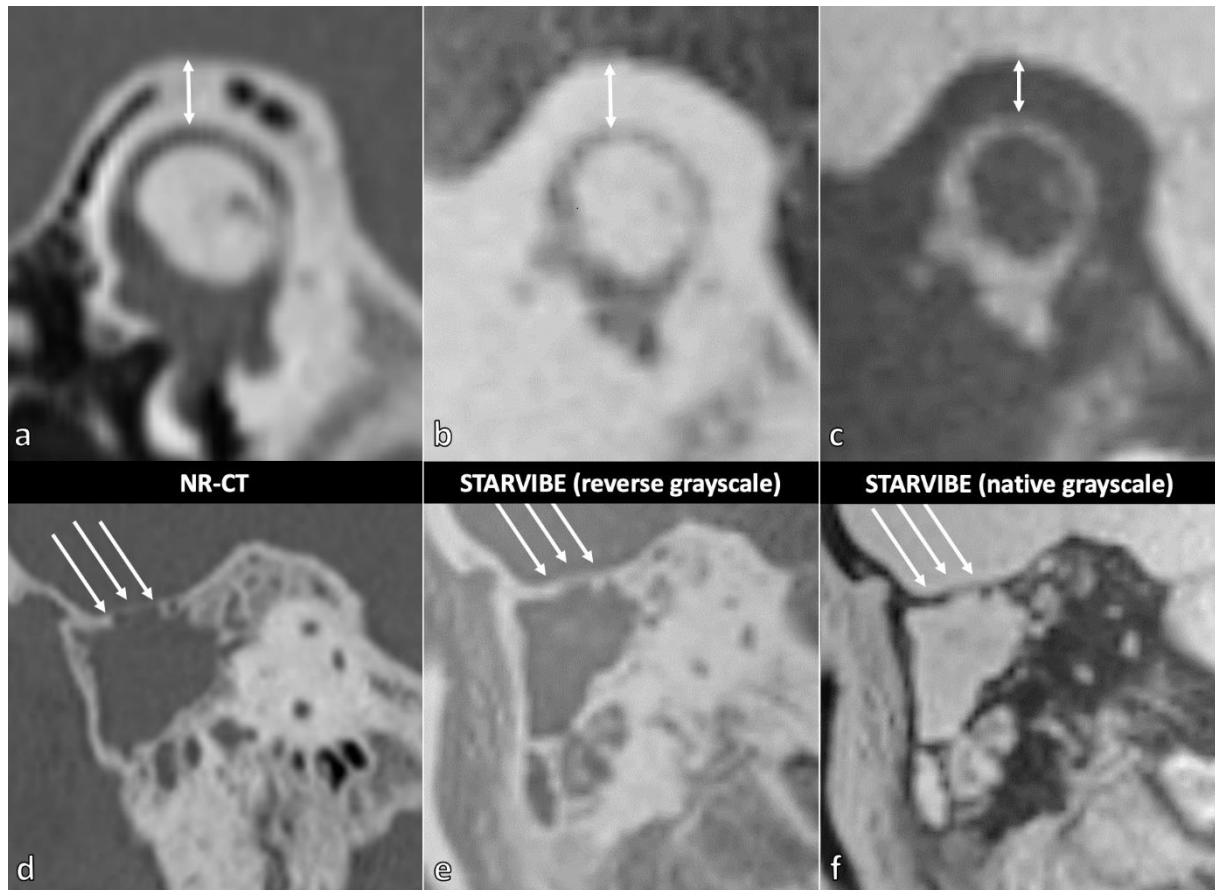


Comparison of CT-like MRI sequences for preoperative planning of cochlear implantation using super-high resolution CT as a reference

ELECTRONIC SUPPLEMENTARY MATERIAL

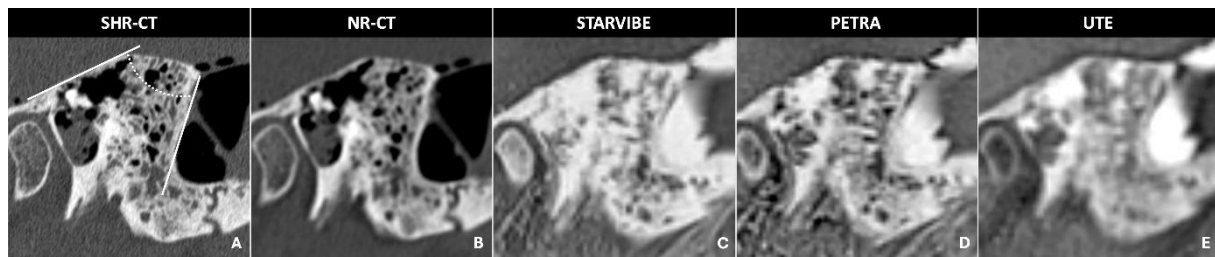


Supplementary Fig. S1. Right facial recess imaged with different CT and UTE MRI sequences in the parasagittal plane (example in living patient). **(a)** SHR-CT showing the distance between the origin of the chorda tympani nerve (white dotted arrow) and the stylomastoid foramen measurement method. **(b)** NR-CT showing the chorda-facial angle measurement method between the mastoid portion of the facial nerve (MFN: white arrow) and the origin of the bony segment of the chorda tympani nerve (CTN: dotted white arrow). Facial recess composed of the MFN and the bony segment of the CTN in UTE sequences in inverted grayscale **(c)** and native grayscale **(d)**. *CT* Computed tomography, *MRI* Magnetic resonance imaging, *NR* Normal resolution, *SHR* Super-high resolution, *UTE* Ultrashort time of echo.



Supplementary Fig. S2. Superior semicircular canal and tympanic bony coverage in a 19-year-old patient followed for an operated cholesteatoma in NR-CT and STARVIBE MRI sequences (example in living patient).

Superior semicircular canal bony coverage in the Pöschl plane in NR-CT (**a**) and PETRA reverse grayscale (**b**) and native grayscale (**c**) MRI sequences. Bony coverage of the semicircular canal in the coronal plane in NR-CT (**d**) and PETRA MRI sequence with inverted grayscale (**e**) and native grayscale (**f**): note the similarity between the STARVIBE sequence and NR-CT, even in the thinnest zone (white arrows). *CT* Computed tomography, *MRI* Magnetic resonance imaging, *NR* Normal resolution, *SHR* Super-high resolution.



Supplementary Fig. S3. Sinodural angle imaged with different CT and MRI modalities (anatomic specimen) in sagittal plane. **(a)** SHR-CT showing the sinodural angle measurement method between the tegmen tympani superiorly and the sigmoid sinus inferiorly represented by two white lines. Sinodural angle imaged in NR-CT **(b)**, STARVIBE **(c)**, PETRA **(d)** and UTE **(e)** MRI sequences. *CT* Computed tomography, *MRI* Magnetic resonance imaging, *NR* Normal resolution, *SHR* Super-high resolution, *UTE* Ultrashort time of echo.