Cube from General Electric

Cube* 2.0 replaces several 2D slice acquisitions with one single 3D volume scan. Sub-millimeter isotropic Cube volume data can be easily reformatted into any plane—without gaps, and with the same resolution as the native plane. The new self-calibrating, parallel-imaging engine ARC helps to speed up the sequence while minimizing artifacts. And you'll appreciate the high tissue contrast.

Neuro MRI. Cube 2.0 acquires contiguous, sub-millimeter isotropic 3D data that can be easily reformatted into any plane, thus replacing multiple 2D scans. SNR-rich ultra-thin slices help you visualize even small and subtle lesions without partial-volume averaging effect. Cube is enabled for T1, T2, T2 FLAIR, and PD contrasts.

Ninety-one patients were imaged with 3D Cube and conventional 2D FSE on a 3.0-T magnetic resonance scanner. Two neuroradiologists independently assessed images for anatomical delineation (infundibulum, optic apparatus, and cavernous sinus), degree of artifact, and confidence in lesion definition or exclusion using a 5-point scale. In addition, the readers were asked to rank overall preference.

Readers A and B found 3D Cube to be better or equal to 2D FSE in 84% and 86% of the cases. Three-dimensional Cube provided significantly better images than 2D FSE with respect to delineation of the infundibulum ($P < 0.0001$), cavernous sinus ($P < 0.0001$), optic apparatus ($P = 0.002$ for reader A and $P = 0.265$ for reader B), and fewer artifacts at the sellar floor ($P < 0.0001$). Three-dimensional Cube provided greater lesion conspicuity or confidence in lesion exclusion ($P < 0.0001$).

Three-dimensional Cube from General Electric provides superior quality with thinner slices as well as diminished artifact and can replace conventional 2D FSE sequences for routine evaluations of the sellar region and parasellar region [1].

1)
Lien RJ, Corcuera-Solano I, Pawha PS, Naidich TP, Tanenbaum LN. Three-Tesla imaging of the pituitary and parasellar region: T1-weighted 3-dimensional fast spin echo cube outperforms conventional 2-dimensional magnetic resonance imaging. J Comput Assist Tomogr. 2015 May-Jun;39(3):329-33. doi: 10.1097/RCT.0000000000000214. PubMed PMID: 25978591.