Letter to the Editor

In Reference to To Image or Not to Image? A Cost-effectiveness Analysis of MRI for Patients With Asymmetric Sensorineural Hearing Loss

Dear Editor:

Hojjat et al. calculated incremental cost-effectiveness ratios of $27,660 and $15,943 for T1-weighted magnetic resonance imaging (MRI) with gadolinium and T2-weighted MRI, respectively, in the context of asymmetric sensorineural hearing loss and suspicion of internal auditory canal tumor. They concluded that both were cost-effective when compared to willingness-to-pay thresholds of $30,000 to $50,000. The latter figures were based on the £20,000 to £30,000 threshold range used by the British National Institute for Health and Care Effectiveness (NICE). However, NICE’s figures apply to quality-adjusted life years (QALYs); an intervention costing less than £20,000 per QALY is considered cost-effective. Similarly, most authors who have used figures like $30,000 to $50,000 in cost-effectiveness studies have applied them to QALY gains.

Hojjat et al. do not estimate the benefits of MRI in QALY terms. One would expect MRI to detect tumors earlier, compared to no imaging, with possible reduction in mortality and possible reduction of complications that would impair quality of life; both could lead to QALY gains, but these are not estimated.

Instead, what they appear to have estimated is the incremental cost per diagnosis of a cerebellopontine angle tumor. If early diagnosis of a tumor leads to an average gain of 1 QALY or more, it would be appropriate to apply the $30,000 to $50,000 criteria. However, that cannot be assumed. Patients who have tumors but do not promptly receive MRI can have many different pathways. Some will incur QALY costs (death or complications); others will not (later diagnosis with no adverse effects or death from other causes having never been diagnosed).

Whether their estimated costs per MRI diagnosis can be considered cost-effective depends on the clinical benefits of early diagnosis, which have not been estimated in this study (and, to be fair, would be difficult to estimate without large longitudinal clinical studies comparing different screening and diagnostic protocols).

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BIBLIOGRAPHY

DOI: 10.1002/lary.26757