Summary and Conclusion

MRI has become the method of choice for evaluating perianal fistulae due to its ability to display the anatomy of the sphincter muscles orthogonally, with good contrast resolution.

MRI imaging of perianal fistulae relies on the inherent high soft tissue contrast resolution and the multiplanar display of anatomy by this modality. In one of the early studies on MRI fistulography, Lunniss *et al*. reported a concordance rate of 86-88% between MRI and surgical findings. Subsequent studies have suggested that MRI is more sensitive than even surgical exploration of the tract. MRI is especially useful in patients with fistulae associated with Crohn's disease and those with recurrent fistulae, as these entities are associated with branching fistulous tracts. Missed extensions are the commonest cause of recurrence.

T2W images (TSE and fat-suppressed) provide good contrast between the hyperintense fluid in the tract and the hypointense fibrous wall of the fistula, while To summarise, evaluation of an enhanced T1W image, in conjunction with a fat-suppressed T2W image, provides most of the details necessary for accurate evaluation of perianal fistulae.

providing good delineation of the layers of the anal sphincter. In our experience, axial T2W fat-suppressed images were the most useful for locating the fistulous tract.

Gadolinium-enhanced T1W images are useful to differentiate a fluid-filled tract from an area of inflammation. The tract wall enhances, whereas the central portion is hypointense. Abscesses are also very well depicted on post-gadolinium images.

The exact location of the primary tract (ischioanal or intersphincteric) is most easily visualized on axial images; the presence of disruption of the external anal sphincter differentiates a transsphincteric fistula from an intersphincteric one. The internal opening of the fistula is also best seen in this plane.

As mentioned earlier, coronal images depict the levator plane, thereby allowing differentiation of supralevator from infralevator infection. A combination of an axial and a longitudinal series (coronal, sagittal, or radial) will provide all the necessary details.

To summarise, evaluation of an enhanced T1W image, in conjunction with a fat-suppressed T2W image, provides most of the details necessary for accurate evaluation of perianal fistula.