Dear Editor:

Faecal and urinary incontinence can constitute a late complication of pelvic radiotherapy treatment. It is estimated that a percentage that varies from 3% to 53% of these patients can develop incontinence disorders.

A Herpes Zoster infection located in the sacral region can also determine changes in urinary and faecal incontinence. Sacral nerve modulation, currently propagated for other forms of faecal incontinence, can be considered a valid alternative to conservative options. The technique is low-risk and test stimulation is low-cost and highly predictive.

A female patient of 75 years, following a sacral Herpes Zoster infection, complained of solid and liquid faecal incontinence with occasional episodes of urinary incontinence. The case history revealed that in 1988 the patient had undergone radical abdominal hysterectomy with bilateral salpingoophorectomy and pelvic lymphoadenectomy arising from a confirmation of endometrial adenocarcinoma (pT2, NO, MO). The treatment pathway was completed with a radiation treatment on the pelvic cavity using a dose of 50 Gy over 5 weeks. In 2004, the patient developed a severe Herpes Zoster infection affecting the S1–S4 sacral metamers. Preoperative clinical examination had revealed a Wexner incontinence score of 15 and an AMS score of 256. Urodynamic evaluation indicated reduced bladder capacity with sphincter deficit. Quality of life (QoL), assessed with the Short-form Health Status Survey (SF40), was very poor. Endo-anal ultrasound examination with rotating probe showed that the sphincter was undamaged with no morphological alterations. Anorectal manometry registered a maximum resting pressure of 37.7 mmHg, and a maximum squeezing pressure of 52.7 mmHg.

The patient first underwent a trial test with an implant of a quadripolar lead at S3 and then, after analysis of the clinical response, was implanted with a permanent stimulator (Medtronic Interstim Minnesota, MN, USA mod 3023).

At 3 months the patient reports an absence of faecal and urinary incontinence with a significant improvement in the Wexner and AMS scores but with no change in the maximum resting pressure and the maximum squeezing pressure.

The pathogenic mechanism of the damage inflicted on sphincter function by radiation is not clearly defined. The effects are certain correlated to the dose and frequency used. The hypothesis advanced by Varna JS et al. that the radiation treatment could induce morphological changes in the internal anal sphincter is not confirmed, as the pressure values remain almost unchanged. It is, however, possible that compression of the sacral roots by the fibrotic tissue could be responsible for the demyelination of the nervous system with consequent lumbosacral plexopathy. This hypothesis would be confirmed by immunohistochemical evaluation, which would confirm the irreversible damage to the nervous system. In fact, Da Silva et al. found a significant change in the density of the nerves in the internal anal sphincter, reflecting injury to the myenteric plexus. Clinical manifestations may appear from 3 months to 22 years after the end of pelvic radiotherapy.
Generally, a sacral location of the Herpes Zoster is associated with transitory faecal and bladder disorders, while in this case it seems to have led to the breakdown of an instable equilibrium making the incontinence manifest.

One of the problems for these patients is the type of therapeutic approach, with colostomy or artificial anal sphincter as the only possible option once conservative treatments have failed. Recently, in a systematic review, the role of artificial anal sphincter has been challenged and the best indications for this approach are lesions of anal sphincter inaccessible to local repair. Although the role of artificial anal sphincter in patients with faecal incontinence after pelvic radiotherapy has not yet been fully defined, Michot et al. also failed to implant an artificial anal sphincter in radiated tissue.

The sacral nerve stimulation is a recent treatment option in the management of severe faecal incontinence with an overall success rate of 79% for patients undergoing a permanent implant. The long-term results are promising, particularly given the fact that long-term results of other treatments show declining function over time.

Sacral neuromodulation has been shown to be effective in the reported case and, in these patients, it can constitute a therapy which avoids invasive and mutilating surgical approaches. Finally, the great advantage of being able to test therapeutic efficacy prior to permanent implant should not be overlooked.