Radiation-induced neuropathy involving peripheral nerve plexuses after radiotherapy for cervical cancer is very uncommon, but can result in devastating complications. Long-term clinical course which have not been reported in the literature, is described in a patient who has been followed for 25 years postradiation without recurrence of the carcinoma.

CASE REPORT

A 34-year-old woman with stage IIB cervical cancer underwent a total hysterectomy in 1979. Postoperatively, she received 6,000 cGy of cobalt irradiation in 31 fractions over six weeks. One year after radiotherapy, she felt a worsening pain in the buttock region and noted slowly progressive bilateral lower extremity weakness.
fibers indicated a widespread decrease in the density of fibers of all sizes. No vascular change or fibrosis was noted. Teased fiber analysis revealed numerous empty strands without axonal ovoid or segmental demyelination. The weakness has slowly progressed to MRC grade 1–2 in the bilateral iliopsoas, quadriceps, hamstrings and dorsiflexors and plantar flexors of the feet since 1980. She has been wheelchair-bound in spite of physiotherapy since 1992. Almost complete absence of sensation below the knees was noted in 1995. Additionally these neurological deficits have caused recurrent skin ulcers, neuropathic ankles, osteoporosis, and fecal incontinence. At the time of her most recent follow-up in June 2004, there was not any improvement in her neurological disability.

**DISCUSSION**

In contrast to the central nervous system, the peripheral nerves are usually considered to be radioresistant. However, experimental and clinical data showed evidence of peripheral nerve injury after radiation therapy. Pathology of the lumbosacral plexus is difficult to assess because biopsy can damage the plexus. Although vascular alterations or direct damage to axons or Schwann cells, and nerve compression in areas of radiation fibrosis have been suggested, the pathogenesis still remains unclear. No vascular or fibrotic changes were noted in the sural nerve of this patient, probably because it is situated far from the radiation site. The changes in the sural nerve seem to reflect only secondary Wallerian degeneration or longstanding demyelination.

The course of radiation lumbosacral plexopathy is usually relentlessly progressive, often to severe disability, like this patient, although stabilization or exceptionally spontaneous resolution may occur. There is no known factor to affect the clinical course of radiation plexopathy. It is not easy to study the factor, because the radiation lumbosacral plexopathy occurs very uncommonly. Lumbosacral plexopathy seems to be dependent to some extent on the total amount of radiation, although some women appear to be much more sensitive to radiation than others. It was suggested that the previous chemotherapy may have rendered nervous tissue more susceptible. Despite the widespread use of radiotherapy for abdominal and pelvic malignancies, radiation-induced lumbosacral plexopathy remains a rare condition. However, this case illustrates that it can be the most devastating complication.

**REFERENCES**