INTRODUCTION: Radiation therapy to the brain can cause problems months or years after treatment ends. Side effects can include memory loss, movement disorders, urinary incontinence, trouble thinking, or personality changes. There is no current treatment for this late complication. We present three cases in which the use of methylprednisolone, as in multiple sclerosis relapses, has had a very good response in terms of clinical and radiological evaluation.

Case 1: A 43 year-old-woman with recurrent vestibular schwannoma received radiation therapy on the tumour site after the second surgery. Six months later she consulted for diplopia, ataxia and worsening of her facial palsy since a few days ago. The neurological exam showed a right internuclear ophtalmoplegia, vertical nistagmus with upward gaze, right limbs dysmetria and ataxia. The MRI showed high-signal intensity lesions with contrast enhancement in the radiation field (bulbopontine region, right pons and cerebellar peduncle). The diagnosis was subacute rhombencephalitis. We started five days of 1 gr of methylprednisolone. The symptoms and the MRI changes resolved completely one month after therapy.

Case 2: A 60 year-old-man with temporal glioblastoma diagnosed in 2010. He was treated with Stupp regimen followed by temozolomide. Six months later the patient was getting worse of his neurological symptoms with abulia and apathy. A MRI showed worsening in brain edema with an increase in contrast enhancement, with low relative cerebral blood volume. The diagnosis was late pseudoprogression and he received a cycle of 250 mg of methylprednisolone during five days with resolution of the clinical symptoms and significant improvement in MRI brain edema.

Case 3: A 33 year-old-woman diagnosed in 1993 of temporal astrocytoma grade III. It was resected and afterwards radiotherapy. In 2012 started with instability and dizziness. Examination showed slight lateropulsion and on MRI appeared a new lesion that enhanced after contrast administration at right cerebellar peduncle. It was interpreted as radionecrosis and a cycle of 1 gr of methylprednisolone IV per day for five days was administered. Four weeks after the the clinical picture and image were resolved.

DISCUSSION: Demyelination is one of the pathological features of late effects of radiotherapy. Regarding this fact we treated all these patients as a relapsing multiple sclerosis episode with an scheme of intravenous megadosis of methylprednisolone for five days. We obtained complete clinical and radiological response with no adverse events due to steroids.

CONCLUSION: Methylprednisolone must be considered one treatment option in patients who present with clinical and or radiological suspicion of inflammatory late effects of radiotherapy. Further studies are necessary to validate this situation.