

## **Total treatment burden in stage I seminoma patients.**

E. Leung, P. W. M. Chung, T. Panzarella, M. A. S. Jewett, J. Sweet, M. O'Malley, M. K. Gospodarowicz, M. J. Moore, J. F. G. Sturgeon, P. R. Warde; Princess Margaret Hospital and University of Toronto, Toronto, ON; McGill University Health Centre, Montreal, QC

**Background:** Concern has been expressed that stage I seminoma surveillance patients are exposed to an increased burden of treatment due to the need for combination chemotherapy (ChT) during salvage management. To address this issue, we reviewed the total treatment burden in patients with stage I seminoma managed on a surveillance protocol or adjuvant radiation (RT).

**Methods:** Between 1981 and 2004, of 764 stage I seminoma patients, 484 were managed by surveillance and 280 by adjuvant RT. First relapse on surveillance was managed by RT alone, with ChT for more extensive recurrence; a policy akin to the management of de-novo stage II seminoma. All patients with second relapse were managed with ChT. Relapse after adjuvant RT were treated with ChT with exceptional cases (isolated inguinal relapse) receiving RT alone. We assigned total treatment burden according to initial management strategy after orchiectomy by defining episodes of treatment i.e. 1 episode was a course of RT or 3 cycles of BEP chemotherapy (or equivalent) or surgery (e.g. retroperitoneal lymphadenectomy).

**Results:** Median follow-up for the surveillance and adjuvant RT group was 79 and 102 months, respectively. Overall survival at 5 and 10 yrs was 98% and 95%, respectively. Only 1 patient died of seminoma. In surveillance patients, 72 relapsed [72/484 (15%)]. Of these, 56 were treated with RT (5 second relapses), 15 with ChT (1 second relapse), and 1 surgery. Second relapse was treated with ChT in all cases. Relapse after adjuvant RT occurred in 14 patients [14/280 (5%)], 10 of whom received salvage ChT and 4 further RT with no second relapses. In total 20 (4%) and 10 patients (4%) were treated with ChT in the surveillance and adjuvant groups, respectively. In total, surveillance patients underwent 78 episodes of treatment (56 RT, 21 ChT, 1 surgery) compared to 294 in adjuvant patients (284 RT, 10 ChT).

**Conclusions:** Surveillance with RT for first relapse as a management strategy reduces the overall burden of treatment in stage I seminoma patients. We saw no evidence for increased exposure to chemotherapy in patients managed with surveillance, with marked reduction in the use of radiotherapy in this population of young patients.