MB-07. OUTCOME OF CRANIOSPINAL IRRADIATION (CSI) IN CHILDREN AND TEENAGERS: A SINGLE INSTITUTION EXPERIENCE
Anna Bowzyk Al-Naeeb, Thankamma Ajithkumar, and Gail Horan;
Cambridge University Hospital, Cambridge, UK

INTRODUCTION: CSI can be associated with significant long-term toxicities. AIM OF THE STUDY: We analysed the outcome of CSI in children and teenagers treated at Addenbrookes Hospital, Cambridge during 2010-2014.
METHODS AND MATERIALS: Twenty patients (16 males) aged 4-17 years had CSI, including 17 with medulloblastoma (8 with high-risk). Five had conventional radiotherapy (CRT) and 15 tomotherapy. CSI doses were 23.4-39.6 Gy at 1.3-1.8 Gy per fraction followed by a boost radiotherapy. Patients with medulloblastoma received concomitant vincristine.

RESULTS: At a median follow-up of 33 months (range 12.9-61.8), the median overall survival (OS) was not reached. The 3-year OS was 95% and 3-year OS 53.8%. The median progression-free survival (PFS) was 23 months (95%CI 5.7-40.4). The 1-year PFS was 90% and 3-year PFS 30.4%. The most common early side-effects were alopecia (80%), nausea, vomiting (60%), and bone marrow suppression (40%). There were no treatment interruptions. Nine (45%) patients developed growth hormone (GH) deficiency (7 with isolated GH deficiency) at median of 11.7 months. GH deficiency was higher with CRT (80%) than with tomotherapy (33%), possibly due to longer median follow-up after CRT (12 vs. 9 months). Six (30%) patients (4 with isolated hypothyroidism) needed thyroxine replacement at median time of 10.3 months. Memory problems and learning difficulties were observed in 4 patients. One patient developed primary ovarian failure and the median dose to the ovaries was 4.78 Gy.

CONCLUSION: Our series shows acceptable outcome and early toxicity. Hormonal deficiency is the most common long-term sequela.