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INTRODUCTION: Vision loss occurs in children with brain tumour due to prolonged pre-diagnostic raised intracranial pressure or by direct involvement of visual pathway structures. The HeadSmart campaign was launched in 2011 to disseminate national referral guidelines for brain tumour diagnosis, published in 2008 and demonstrated to be associated with a reduction in Total Diagnostic Interval (TDI) from 13.4 weeks in 2006 to 6.7 weeks in 2011. METHODS: Records of children aged 0–24 years from the National Cancer Registry (1997–2012, n = 19,553) were probabilistically linked to 13,013 national records of the electronic Certificate of Visual Impairment (eCVI, 2007–2012), to identify 336 brain tumour patients with registered partial or complete vision loss. Variation in the risk of vision loss associated with different tumour location and histology was estimated. In this cohort CNS neoplasms, optic atrophy and multiple causes accounted for 36.6%, 17.5% and 15.3%, respectively, of eCVI certifications. TDI was calculated for each child. Results: There is still a significant difference between age groups. Median TDI is 3.9, 6.6 and 9.9 weeks for children under 5, 5–11 years and 12–18, respectively.

TRTH-28. HIGH THROUGHPUT SCREENING OF NOVEL HISTONE DEACETYLASE INHIBITORS FOR EPITHELIC THERAPY OF PRIMARY BRAIN TUMORS

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BACKGROUND: Histone deacetylases (HDACs) are crucial regulators of epigenetic and posttranslational modifications and therefore represent a promising therapeutic target in cancer cells that harbor distinct epigenomes from normal cells. To exploit the therapeutic potential of HDAC inhibitors (HDACi) we synthesized a unique in-house library of more than 200 inhibitors of HDACs. For the evaluation of the antitumor effects of the compound library in brain tumor cell lines, we successfully established an optimal screening workflow. METHODS: The screening procedure was streamlined by automated dispensing of cell lines, reagents and inhibitors onto all 384-well plates. In combination with additional modifications, a remarkable increase of the overall throughput was realized, while generating accurate and reproducible results. Based on this workflow, we created a unique and comprehensive data set and could thereby identify various HDACi acting universally across brain tumor cell lines or being specifically active in distinct tumor entities. This work was made possible by collaboration with the Royal College of Ophthalmologists, c/o Certifications Office, Moorfields Eye Hospital, captured by the Certificate of Vision impairment (CVI) are Department of Health copyright and with permission.

TRTH-25. REDUCING TIME TO DIAGNOSIS OF PAEDIATRIC BRAIN TUMOURS IN THE UK – HEADSMART AWARENESS CAMPAIGN

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BACKGROUND: Public and professional concern about delays in diagnosis of childhood brain tumours has led to a clinical referral guidelines and the Headsmart campaign to raise awareness of the early features of brain tumours and the need for timely imaging. As part of the outcome evaluation, we have collected data on total diagnostic intervals (TDI); i.e. intervals between symptom onset to diagnosis through a national service evaluation. The aims of the project are to (1) report the most recent TDI; and (2) identify the subgroup(s) with the longest symptom interval. METHODS: Paediatric brain tumour cases (aged 0–18 years) diagnosed between June 2014 and May 2015 were identified through a network of Headsmart clinical champions. Age at diagnosis, first symptom onset, first presentation to healthcare and diagnosis, tumour site, diagnosis were collected thorough an online data collection form. RESULTS: Data of 334 eligible cases, representing over 75% of incident cases in the UK of that year were recorded. TDI showed a right skewed distribution with a 90th percentile of 48 weeks.