during chemotherapy and 8-weekly after chemotherapy successfully identified all cases of acute hepatitis B.

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P24 SINGLE INSTITUTION EXPERIENCE OF ODONTOGENIC CYST AND TUMOURS, AND TUMOUR-LIKE LESIONS OF THE JAW, IN SOUTH KERALA – A 10-YEAR CLINICOPATHOLOGICAL SURVEY

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Background: This study aimed to evaluate and compare the relative frequency, distribution, sites of presentation, and radiological and histological variations of odontogenic cysts, tumours, and tumour-like lesions in cases reported to the Government Dental College, Trivandrum, India.

Methods: A retrospective analysis was done on 3222 biopsy cases reported to the Department of Oral Medicine and Radiology from January, 2000, to May, 2009. Biopsy records were also evaluated from the Department of Oral Medicine and Department of Oral Pathology and Microbiology.

Findings: Of 3222 biopsy cases reported, 1082 were diagnosed as odontogenic cysts and tumours, and tumour-like lesions of the jaw. Of the 1082 cases, the highest frequencies were as follows: cyst of inflammatory origin (periapical and radicular cyst; $n = 589$, 54.4%); ameloblastoma ($n = 141$, 13.03%); dentigerous cyst ($n = 98$, 9.05%); keratinising odontogenic tumour ($n = 74$, 6%); fibrous dysplasia ($n = 25$, 2%; females = 19, 75%; males = 6, 24%); dentigerous cyst showing ameloblastoma transformation ($n = 24$, 2%); eruption cyst ($n = 55$, 5%); osteoma ($n = 22$, 2%); central ossifying fibroma ($n = 20$, 1.8%; females = 13, 65%; males = 7, 35%); odontome ($n = 16$, 1.4%); adenomatoid odontogenic tumour ($n = 6$, 0.5%); central giant-cell granuloma ($n = 9$, 0.8%); central odontogenic fibroma ($n = 6$, 0.5%); cementoblastoma ($n = 8$, 0.8%); Pindborg tumour ($n = 5$, 0.4%); and benign fibrous histiocytoma ($n = 3$, 0.2%). Rarer conditions, which accounted for less than 0.2% of cases, were juvenile ossifying fibroma, ameloblastic fibrodontoma, chondrosarcoma, central odontogenic myxoma, and plasma-cell myeloma.

Interpretation: The relative frequencies and sites of presentation of odontogenic cysts, tumours, and tumour-like lesions of the jaw in different geographic backgrounds are essential for early diagnosis and management of these potentially destructive benign lesions.

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P25 IMPACT OF CONTRIBUTION BY ONCOLOGY PHARMACISTS ON LYMPHOMA WARD ROUNDS

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Background: In the oncology setting, specialist multidisciplinary teams are often needed to ensure that patients receive the best possible care and treatment. As drug experts, pharmacists manage chemotherapy-related and supportive care issues. They can also help to manage treatment costs and facilitate accurate prescribing to maximise patient safety. Documentation of interventions done by pharmacists on ward rounds can be clinically and educationally useful for improving prescribing safety and pharmacy services. This study evaluated the impact of interventions made by pharmacists on lymphoma ward rounds.

Methods: This was a cross-sectional analysis of interventions made by pharmacists on the lymphoma service from 2009 to 2010, at Singapore General Hospital, where pharmacists from the National Cancer Centre Singapore join lymphoma ward rounds 5 days a week. Interventions were documented in a database and were given an impact rating by two independent reviewers – a lymphoma oncologist and an oncology pharmacist. Interventions were classified into four impact levels and assessed as drug-related, cost-related, or workflow issues. Spearman's correlation test was used to test for agreement between the two reviewers.

Findings: A total of 295 interventions were made for 116 patients; 97% were accepted by oncologists. Most interventions were related to antimicrobial dosing or usage (35%) and chemotherapy-related issues (29%). 23% of impact ratings were level 3 or 4. Ratings of interventions that helped to avoid or solve drug-related problems and improve workflow were moderately concordant between the two reviewers, in the areas of supportive care ($p = 0.544$) and chemotherapy-related issues ($p = 0.559$). Overall, the oncologist gave higher ratings for cost-saving interventions and the pharmacist gave higher ratings for interventions that help to avoid or resolve drug-related problems and improve workflow.

Interpretation: Interventions by oncology pharmacists are well-accepted on ward rounds and have a positive effect on patient care.

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P26 EXPRESSION OF MAGE-A3 AND ITS PROGNOSTIC VALUE IN HEPATOCELLULAR CARCINOMA IN ASIAN PATIENTS

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Background: The MAGE-A3 tumour-specific antigen is expressed by many tumours, including hepatocellular carcinoma (HCC), and is therefore an appropriate target for active immunotherapy. Here, we report results from a retrospective epidemiological evaluation of MAGE-A3 gene expression in Asian patients with pathologically proven HCC, and its prognostic value.

Methods: 200 samples were analysed from two centres in Thailand and one in Taiwan. Patient and tumour characteristics were also collected. Formalin-fixed paraffin-embedded (FFPE) tumour

tissue from surgical resection was tested for MAGE-A3 expression, by quantitative reverse-transcription polymerase chain reaction (RT-PCR).

Findings: The overall rate of MAGE-A3 expression was 41% (37% in Taiwan and 48% in Thailand, from 132 valid samples). MAGE-A3 expression was lower in patients with HBV infection (33.3%) than in HCV-infected patients (63.0%). No difference in MAGE-A3 expression was noted for the following factors: age, gender, liver cirrhosis, Child-Pugh class, chronic alcohol abuse, number and size of (largest) tumours. No clinical effects on survival were associated with MAGE-A3 expression in this HCC Asian population. The hazard ratio (HR) for the disease-free interval for MAGE-A3-positive versus MAGE-A3-negative patients was 1.06 ($p = 0.82$; HR adjusted for T stage, tumour number and size, cirrhosis, Child-Pugh score, and ECOG performance status was 1.40 [$p = 0.29$]). HRs for disease-free and overall survival were 1.03 ($p = 0.91$) and 0.97 ($p = 0.94$), respectively; adjusted HRs were 1.32 ($p = 0.37$) and 1.33 ($p = 0.63$). However, because of the small number of patients, no subset analysis by stage or other variables that affect disease-free and overall survival could be done.

Interpretation: MAGE-A3 can be assessed by RT-PCR on surgically resected HCC. The overall expression rate is sufficient to consider MAGE-A3 a target for active immunotherapy. The relatively higher expression in HCV-infected patients has no explanation, so far. Clinical evaluation of MAGE-A3 antigen-specific cancer immunotherapeutics in early HCC after resection is being discussed.

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P27 HIGH DOSE RATE BRACHYTHERAPY BOOST FOR RESIDUAL MALIGNANT GLIOMA – CLINICAL RESULTS FROM A SINGLE INSTITUTION

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Background: This study investigated the role of additional high dose rate (HDR) brachytherapy boost, in patients with malignant glioma who have residual lesions after conventional external-beam radiotherapy (EBRT).

Methods: Thirty patients were included in this prospective, non-randomised trial. After initial surgical intervention and EBRT given as 60 Gy/30 fractions/6 weeks, patients with a post-radiation residual lesion not more than 6 cm in maximum dimension were selected: 16 patients in the experimental group and 14 in the control group. Patients in the experimental group received a brachytherapy boost dose of 24–25 Gy/5–6 fractions daily, using a high dose rate Ir192 source.

Findings: Median follow-up was 1 year (range 0.4–7.5 years). Median overall survival (OS) was 14 months for the boost group and 11 months for the control group ($p = 0.49$). Median progression-free survival (PFS) was 10 months for the boost group and 8 months for control ($p = 0.44$). Acute and late toxicities were low. Two patients developed limited CSF leakage, and one patient reported severe pain.

Interpretation: Increasing the dose of radiation by additional HDR brachytherapy boost prolonged the median OS by 3 months and PFS by 2 months, but the number of patients was too small to reach statistical significance. The implant was tolerable and the toxic effects of an additional HDR brachytherapy boost were low, so this may be considered a safe treatment option.

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P28 CHILDHOOD CANCER AND ITS IMPACT ON THE FAMILY—AN ASIAN EXPERIENCE

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Background: In Singapore, there is a lack of information on the impact of childhood cancer on the family as a whole. We set out to assess medical and non-medical costs of childhood cancer and its psychosocial impact.

Methods: All patients diagnosed and treated at the Department of Pediatrics, KK Women's and Children's Hospital and National University Hospital, Singapore, were eligible. Families were given two self-administered questionnaires: one about the child and family, and an impact-on-family scale. The total score was obtained by summation of all scores, with a high score correlating to high impact.

Findings: 79 parents were enrolled during the study period (October, 2008–February, 2009). 48 of the children (61%) were male. 57 (72%) of respondents were mothers and 51% had children younger than 5 years. Most respondents were Chinese (54%), followed by foreign (not from Singapore) patients at 33%. 44 (56%) had children with haematological malignancies, and 38% had children with solid tumours. Reported financial burden was higher than in US and Italian studies. No Malaysian or Indian care-givers reported a high familial or social burden ($p = 0.05$). All Malaysian and Indian care-givers reported low-to-moderate psychological burden, whereas a large proportion of Chinese reported a high burden ($p = 0.03$). Chinese reported the highest levels of mastering (ie, coping strategies) within ethnic subgroups ($p = 0.001$). Cronbach's alpha internal reliability was 0.64.

Interpretation: Overall, the burden of childhood cancer in Singapore is comparable to other countries. Factors associated with high impact are ethnicity, employment status, and leave status. Use of the impact-on-family scale needs further research to see whether all domains are applicable to our local culture.

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