P44 EXPRESSION OF CALCIUM/CALCINEURIN PATHWAY-REGULATED TRANSCRIPTION FACTOR NFATC1 AND CHROMATIN-REMODELLING GENES BRG1 AND BRM IN INVASIVE BREAST CANCER

M. Pan. *Division of Oncology, Kaiser Permanente Medical Centre, Santa Clara, CA, USA*

Background: NFATc1 is a transcription factor activated by the calcium/calcineurin pathway, which regulates several physiological processes. Evidence has also shown a role for NFAT transcriptions factors in oncogenesis. BRG1 and BRM are chromatin-remodelling genes that are also regulated by calcium homoeostasis. Diminished expression of BRG1 is associated with poor prognosis in breast cancer, non-small-cell lung cancer, colorectal cancer, and prostate cancer. To understand the biological relationship between these two pathways, we examined the expression pattern of NFATc1, BRG1, and BRM in invasive breast cancer.

Methods: Paraffin blocks of 150 cases of invasive breast cancer were retrieved from Kaiser Permanente Medical Centre database. Monoclonal antibodies against NFATc1, BRG1, and BRM were used, and expression pattern was determined as no expression, weak (1+ staining intensity), moderate (2+), and high expression (3+). Pearson Chi-Squared test was used for statistical analysis.

Findings: NFATc1 was expressed in approximately 22% of the 150 cases of invasive breast cancer, whereas BRG1 was expressed in 56.7% and BRM in 52%. Both nuclear and cytoplasmic expression of NFATc1 was detected, with nuclear expression as the predominant feature. BRM1/BRM are predominantly expressed in the nucleus. Most cases expressing NFATc1 showed 2+ moderate intensity expression patterns. Statistical analysis showed that expression of NFATc1 was highly correlated with the expression of both BRG1 and BRM.

Interpretation: Our preliminary data shows that NFATc1 is expressed in a subset of BRG1/BRM-positive invasive breast cancers. This correlation of two calcium homoeostasis-regulated pathways provides insight into the oncogenesis of breast cancer.

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P45 INVASIVE FUNGAL INFECTIONS IN HAEMATOLOGICAL MALIGNANCIES AT A REGIONAL CANCER INSTITUTE – ROLE OF PANFUNGAL PCR

S. Adurthi [a], T.P. Sahoo [b], M. Shafiulla [a], B. Radhika [a], L.A. Jacob [b], L. Appaji [c], P.P. Bapsy [b], C. Ramesh [d], R.S. Jayshree [a,*]. [a] *Department of Microbiology, Kidwai Memorial Institute of Oncology, Bangalore, Karnataka, India.* [b] *Department of Medical Oncology, Kidwai Memorial Institute of Oncology, Bangalore, Karnataka, India.* [c] *Department of Pediatric Oncology, Kidwai Memorial Institute of Oncology, Bangalore, Karnataka, India.* [d] *Department of Epidemiology and Biostatistics, Kidwai Memorial Institute of Oncology, Bangalore, Karnataka, India*

Background: Invasive fungal infections (IFI) vary considerably worldwide and it is difficult to make a definitive microbiological diagnosis. Therefore, we investigated the epidemiology of IFI by use of panfungal PCR (PFPCR), during febrile episodes in patients with haematological malignancies at Kidwai Memorial Institute of Oncology – a Regional Cancer Centre for diagnosis, treatment, and research on cancer in South India.

Methods: Over a period of 11 months, 160 febrile episodes in 125 patients with haematological malignancies undergoing treatment at our institute were prospectively investigated for IFI. Fungal DNA was extracted from whole blood, amplified by PFPCR using primers against the conserved regions of fungal 18SrRNA gene sequences, and speciated by dot-blot hybridisation.

Findings: 30 of the febrile episodes (19%) were positive for fungal DNA, only two of which yielded fungal growth from blood. Frequencies of proven, probable, possible IFI, and fungal DNAemia without radiological or culture evidence were 1.3%, 0.63%, 5%, and 12%, respectively. Infection by *Candida* species predominated (22 of 30 [73%]), of which the majority were *C.albicans* [16 of 22 [73%]). Five of 22 (23%) were due to *C.tropicalis*. Infection due to *Aspergillus* was rare (3%). Using EORTC criteria for defined IFI, the sensitivity, specificity, positive, and negative predictive values of PFPCR were 100%, 87%, 37%, and 100%, respectively.

Interpretation: Although fungal-DNA-positive febrile episodes were seen in 19% of patients, the prevalence of IFI using the revised EORTC criteria was 6.9%. Nevertheless, the high negative predictive value of PFPCR makes it a reliable test that could allow IFI to be excluded in patients with febrile neutropenia, and would render unwarranted empirical antifungal treatment unnecessary.

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P46 ADVERSE EVENTS OF NIMOTUZUMAB COMBINATION THERAPY IN PATIENTS WITH ADVANCED CARCINOMA

L. Chen [a], H. Chen [b], X. Zhang [c], B. Ling [d], Y. Dai [e], G. Ma [f], J. Zheng [f,g,*]. [a] *Fuzhou, Nanjing PLA General Hospital, Fuzhou, China.* [b] *Jiangsu Cancer Hospital, Nanjing, China.* [c] *Chinese PLA General Hospital, Beijing, China.* [d] *HeBei Medical Uinversity, Shijiazhuang, Hebei, China.* [e] *China Medical University, Graduate School, Shenyang, China.* [f] *Biotech Pharmaceutical Co. Ltd., Beijing, China.* [g] *Tongji University, School of Medicine, Shanghai, China*

Background: We evaluated adverse events of nimotuzumab combined with chemotherapy, radiotherapy, or chemoradiotherapy in treatment of advanced carcinomas.

Methods: We reviewed 835 patients with pathologically diagnosed malignant tumours of stage II–IV with metastasis, who were treated from January, 2010, until October, 2010, at 40 hospitals nationwide, by nimotuzumab combined with radiotherapy, chemotherapy, or chemoradiotherapy. Generally, patients were receiving a dose of 45–72 Gy radiotherapy. Patients who were also receiving chemotherapy were mainly receiving platinum agents. All patients were receiving 100–200 mg nimotuzumab once a week at the same time as the other therapies.

Findings: Medical records could be analysed in 792 cases, of which 241 were nasopharyngeal cancer (28.86%); the next most common type of malignancy was head and neck cancer (153 cases [18.32%]). Patients were 37–75 years with a median age of 63.