OP6.180

Role of serotonin in epilepsy: focus on 5-HT2 receptors

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Studies in experimental models have showed a potential role for serotonergic transmission in epilepsy, suggesting serotonin receptors (5-HTRs) as promising candidates as a target for new antiepileptic drugs. Indeed, 5-HT is known to regulate a wide variety of focal and generalized seizures, including absence epilepsy both in human and in animal models. In particular, agents that elevate extracellular 5-HT levels, such as 5-hydroxytryptophan and 5-HT reuptake blockers, inhibit both focal (limbic) and generalized seizures. Conversely, depletion of brain 5-HT lowers the threshold to audiogenically, chemically and electrically evoked convulsions. More recently, increased threshold to kainic acid-induced seizures was observed in mice with genetically increased 5-HT levels. The serotonergic system is very complex and several receptor subtypes may be relevant to epilepsy. At least 14 distinct G protein-coupled 5-HTR and one ligand-gated ion channel receptor (5-HT3) are divided into seven distinct classes (5-HT1 to 5-HT7). 5-HT2A/2CRs are the major focus of this talk. Early findings showing that mice lacking the 5-HT2CR are extremely susceptible to audiogenic seizures and are prone to spontaneous death from seizures will be presented together with new experimental evidence in different animal models of epilepsy. Thus, serotonergic neurotransmission mediated by 5-HT2CR subtype suppresses neuronal network hyperexcitability and seizure activity.

OP7.181

The demographics of coeliac disease in the Maltese population

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Introduction: The worldwide prevalence of coeliac disease (CD) is 1%, although 85-90% are under-diagnosed. This is due to the many atypical and subclinical manifestations of the disease. Patients have a modestly increased risk of malignancy, morbidity and mortality, when compared to controls.

Aim: To give an overview of contemporary CD, and enable health professionals to identify the various presenting features of CD, identify those at high risk for CD, and promote rational screening.

Methodology: Ninety two patients with CD were identified through the gastroenterology out-patient department and their demographic characteristics were analysed.

Results: Only 22.8% of celiac patients were male. 74.1% were non-smokers and 4.9% of patients were chronic alcohol abusers. 31.5% of patients were diagnosed between the ages of 30 and 39 years, with a second peak in males, with 23.8% diagnosed under 9 years of age. A coeliac screen was carried out mainly because of gastrointestinal symptoms, including abdominal pain (20.1%), diarrhea (18.3%) and weight loss (14.2%). In 26.3% males and 37.3% females, the triggering symptoms were those of anaemia, and in 8.5% females, low bone density. 21.6% of patients with CD had thyroid disorders, 3.1% had type 1 diabetes mellitus and 2.1% had vitiligo and dermatitis herpetiformis respectively. 12.0% of patients with CD also had asthma, 7.6% had allergic rhinitis, and another 9.8% had both asthma and allergic rhinitis. 3.26% of patients with CD suffered from eczema. 10.9% of patients had at least one first degree relative with CD.

Conclusion: As expected, CD in Malta is commoner in females. Most patients have a normal or overweight BMI, with the weight increasing on initiating a gluten free diet. Locally, the mean age range of presentation of CD is 30-39 years, with a second peak for boys in their first decade. The main symptoms are gastrointestinal, but CD also tends to present with anaemia, or low bone density. The rate of thyroid disorders associated with CD is very high. This study showed that more patients are being diagnosed with CD in departments other than gastroenterology, therefore widespread selective screening of patients with symptoms of or conditions associated with CD should be implicated by all physicians, to minimize the complications of CD.

OP7.182

A prospective cross-sectional study evaluating the etiology of anaemia in patients admitted to hospital under a gastroenterology firm, that is part of an unselected medical take roster

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Background: Anaemia is a common finding in patients admitted to hospital. Identifying the underlying cause is vital in its management. Various studies have evaluated the etiology of anaemia in the elderly population, however very few studied this across all adult age groups.

Objective: To evaluate the etiology of anaemia in patients admitted to hospital under a gastroenterology firm, that is part of the unselected medical take roster.

Methodology: 132 adult (≥15 years) patients, with incidental or symptomatic anaemia that were admitted to Mater Dei Hospital, unselectedly under a gastroenterology firm, during May 2010 and May 2011, were prospectively studied. Patients with recurrent admissions during the study period were recruited once only. Anaemia was defined as below the lower limit of normal of our laboratory's reference range (<13g/dl males, <11.5g/dl females). A thorough history and physical examination, together with a complete blood count, iron studies, vitamin B12/folate levels and renal profile were carried out in all patients. Additional tests such as thyroid and liver function, inflammatory markers, serum protein electrophoresis and upper/lower endoscopy were requested at the physician's discretion, guided by the mean corpuscular volume. Causes of anaemia were classified as anaemia of inflammation (sepsis, non-GI malignancy or autoimmune disease), iron-deficiency anaemia, overt blood loss, other causes (renal disease, etc.) and unexplained.

Results: A total of 505 patients were admitted during the study period, of which 132 (26.1%) had anaemia. 14 were excluded as had incomplete data. 118 patients were included for analysis (mean age 69.9 ±16.1 years, females *n*=45 (38.1%), males n=73 (61.9%)). Their mean haemoglobin was 10.0 ±1.8g/dl (normocytic 64.5%, microcytic 28.8%, macrocytic 5.9%, pancytopenia 0.8%). 83.1% (*n*=98) had 1 cause for anaemia, 16.9% (*n*=20) had 2 or more causes. Diagnosis included: Anaemia of inflammation 41.5% (*n*=49) (sepsis n=25, non-haematological/non-GI malignancy *n*=15, haematological malignancy *n*=8, autoimmune disease *n*=1); iron-deficiency anaemia 18.6% (*n*=22) (GI malignancy n=7, non-malignant GI lesion *n*=6, undetermined *n*=4, menstruation *n*=3, non-GI malignancy *n*=2); overt blood loss 8.5% (*n*=10) (upper GI *n*=6, lower GI *n*=2, respiratory n=1, urinary *n*=1); others 21.2% (*n*=25) (renal disease *n*=17, liver disease *n*=3, thalassaemia n=3, thyroid disease *n*=1, folate deficiency *n*=1); unexplained 10.2% (*n*=12). 85.7% of GI malignancy had microcytic anaemia, while 64% of non-GI malignancy had normocytic anaemia.

Conclusion: Sepsis, non-GI malignancy and GI lesions (malignant and non-malignant) were the primary causes of anaemia in this cohort of patients, each comprising about 20% of the cases. Renal disease comprised another 15%. No correlation could be found between malignancy and the degree of anaemia, however GI malignancy tended to be microcytic, while non-GI malignancy tended to be normocytic.