later for patients who had not developed a psychosis. The MRI data from the 2 time points were compared within each group.

Results: (a) *Cross-sectional comparison*: relative to the group who did not become psychotic, those going on to develop psychosis had smaller grey matter volumes in right temporal temporal and inferior frontal cortex, and in the cingulate cortex bilaterally. (b) *Longitudinal comparison*: in the group who became psychotic there were reductions in grey matter volume in the medial temporal and anterior cingulate cortex bilaterally, the left fusiform and inferior frontal cortex and in the cerebellar cortex. There were no changes in the group who remained non-psychotic.

Discussion: There were marked differences in regional grey matter volume between high-risk subjects who later developed psychosis and those who did not, despite the absence of clinical differences at the time of scanning. The group who went on to develop psychosis showed longitudinal reductions in regional grey matter volume in association with the expression of frank psychotic symptoms. These data suggest that in psychotic disorders some abnormalities of grey matter volume predate the onset of frank symptoms while others appear in association with the first episode of psychosis.

S09.5

Disordered brain development and abnormal connectivity

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There is some evidence both for schizophrenia as a disorder of brain development and for schizophrenia as a disconnexion syndrome. Imaging evidence for dysconnectivity in adult schizophrenia is reviewed and possible mechanisms by which abnormal early development might lead to adult dysconnectivity are rehearsed. One experimental approach to securing a more robust link in general between mechanisms of abnormal neurodevelopment and patterns of abnormal adult brain structure is to study rare neurogenetic syndromes where a specific genetic lesion is associated with well-characterised developmental abnormalities in animal models. An example of this approach is provided by a structural and functional MRI study of a human family with heterozygous mutation in PAX6, a highly-conserved neuro-developmental control gene which is important for inter-regional boundary demarcation and guided axonal growth in mice. The adult human phenotype is characterised by deficits in major white matter tracts and distributed functional deficits in fronto-striatal circuits. The implications for schizophrenia as a syndrome of abnormal development of neurocognitive networks are discussed.

S10. Eating disorders

Chairs: H. Wijbrand Hoek (NL), J. Treasure (GB)

S10.1

Evidence based treatments for anorexia nervosa

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Evidence based medicine (EBM) is the *integration* of best research evidence, together with clinical expertise and patient values (Sackett et al., 2000). All to often when the evidence based medicine approach has been considered there is a tendency to focus on the quality of the evidence for treatment. The second part of Sackett's definition, which discusses clinical expertise and patient's values, tends to be overlooked. There is very little in the way of Level I and II evidence about the efficacy treatment in anorexia nervosa. However the fact that there is no evidence from RCT's should not be interpreted as if these treatments are of no value. It is not appropriate to dismiss treatment of the starvation state because of paucity of specific evidence in anorexia nervosa, as the natural history of starvation is known and effective treatment of starvation is also known. Thus there is an argument for not requiring evidence from RCTs to resuscitate and embark on treatment. There is a detailed, coherent body of research, which documents prognostic features and the factors that have to be considered in terms of the acute medical risk. Medical risk is critically important to guide the acute management of anorexia nervosa The acute risk management involves a combination of the medical risk and psychological capacity set against the possible resources of motivation and psychosocial support.

Once we are out of these "fire fighting" stages there is evidence that specific psychotherapies are more effective than supportive counselling and dietary advice. It is useful to involve families in management but how and by how much is less certain. The early phase of research into pharmacotherapy produced little benefit, but new drugs and new paradigms such as using drugs to prevent relapse rather than to treat starvation are of interest.

S10.2

Evidence based treatment for bulimia nervosa

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Eating disorders are mental disorders occurring mainly among young females. The prevalence of bulimia nervosa according to DSM-IV criteria among young females is 1%. Bulimia nervosa leads to serious physical, psychological and social consequences. Women suffering from bulimia nervosa are so ashamed of their disturbed eating behaviour that they hardly look for professional help. Only 6% of all women with bulimia nervosa in the population do come into mental health care.

Systematic reviews of large randomized controlled trials found that cognitive behavioural therapy compared with remaining on a waiting list reduced the symptoms of bulimia nervosa and improved non-specific symptoms such as depression. The NNT (Number Needed to Treat) of CBT is 3. The absolute remission rate of bulimia nervosa for CBT is around 40%. One 5-year follow-up study showed that the effect of CBT remained. Selfhelp based on CBT seems also to be effective.

Systematic reviews of RCT's with antidepressants compared to placebo have found a significant short-term reduction of bulimic symptoms.

S10.3

Osteopenia and bone mass increase in adolescent anorexia nervosa

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The percentage of patients with osteopenia, the variables related and the bone mass increase after recovery were studied. Bone mass was measured by dual-energy-x-ray absorptiometry in 180 female and 20 male adolescents with anorexia nervosa. The results were compared with normative values for bone mass in Spanish adolescents. In 108 females and 15 males a second examination was carried out after a follow-up of six to thirty four months. At lumbar spine 44.1% of girls and 35% of boys had osteopenia. The variables related to osteopenia were duration of illness and

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