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AB1106 DEPRESSION AND ANXIETY IN PAEDIATRIC SYSTEMIC LUPUS ERYTHEMATOSUS. A SYSTEMATIC REVIEW

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Background: Depression and anxiety are common and treatable childhood mental health disorders that have been reported to impact outcomes for individuals with childhood-onset Systemic Lupus Erythematosus (cSLE)¹. Research into the prevalence of depression/anxiety and cSLE comorbidity has reported conflicting results, and to our knowledge, no previous review of these data has been undertaken.

Objectives: To synthesise current knowledge regarding the association of depression and anxiety disorders with cSLE among paediatric patients.

Methods: Studies were identified through a comprehensive search of MEDLINE, EMBASE, PsychINFO, LILACS and Web Of Science (from database inception – July 2017) using MESH headings and Keywords for 'lupus erythematosus', and 'depression' or 'anxiety'. Included studies measured depression and/or anxiety symptoms prospectively among children and youth 8 to 21 years of age with a diagnosis cSLE. Data were extracted by two independent coders and where discrepancies occurred, agreement was reached by consensus.

Results: Sixty-two studies met criteria for full text review, and of these, 13 studies were included in the final analysis. The majority (80%) of studies were of cross-sectional design, with sample sizes ranging from 14 to 100 (mean=47) participants. The mean age of participants was 15.6 years and participants were predominantly female. Prevalence rates for depression ranged from 6.7% to 54%. Anxiety symptom prevalence was 20% to 34%. All studies employed self-report instruments to assess depression and anxiety; none of the studies utilised semi-structured diagnostic interview to make psychiatric diagnoses. Significant heterogeneity precluded meta-analysis of the data.

Conclusions: Depression and anxiety may be common comorbidities of cSLE however current research is limited by a paucity of studies, small sample sizes and an inability to confirm psychiatric diagnoses. Future research addressing these limitations is needed.

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AB1107 TRANSITION FROM PAEDIATRIC TO ADULT RHEUMATOLOGY SERVICES IN NEWCASTLE TRUST HOSPITALS

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Background: Transitional care is defined as "the purposeful, planned movement of adolescents and young adults with chronic physical and medical conditions from child-centred to adult-oriented healthcare systems."¹

In 2016, EULAR produced recommendations on how this transition process should occur within rheumatology.²

Objectives: To audit the Newcastle-Upon-Tyne Hospitals rheumatology transitional care service against EULAR recommendations.

Methods: EULAR recommendations were adapted into a questionnaire, which was reviewed and edited by several Young Adults (YAs) with Juvenile Idiopathic Arthritis (JIA) attending clinics.

Patients attending specialist YAJIA clinics between November 2017 and January 2018 were asked to complete the questionnaire; responses were audited against EULAR recommendations.

Results: 28 YAs with JIA completed the audit questionnaire (10 males and 18 females, age range 16–25). Not all questions were answered by all YAs.

Of the 17 patients with 'childhood-onset disease' (onset ≤age 10) 12% (2/17) had their transition started by age 14 ('essential' recommendation) and none by age 11 (the 'ideal' recommendation). Of the 11 patients with 'adolescent-onset

disease' (onset >age 10) 18% (2/11) had their transition started at the time of diagnosis (EULAR recommendation 2).

63% (17/27) of patients had ≥1 'direct' contacts with adult and paediatric rheumatology via a joint appointment (EULAR recommendation 3).

11% (3/28) of patients were aware of a documented individual transition plan (EULAR recommendation 4).

40% (6/15) were able to list ≥3 multidisciplinary team (MDT) members that had positively impacted their care. 54% (15/28) were able to provide the name of a transition coordinator (EULAR recommendation 6).

81% (21/26) of respondents 'agreed or strongly agreed' that they had been signposted to information on their condition, 48% (12/25) to peer support groups, mentoring schemes and charities, and 25% (6/24) to information sources on careers and finance. 64% (of patients were consulted on how they would like their parent/carer to be involved in their care during and after their transition (EULAR recommendation 7).

82% (23/28) of respondents reported having copies of letters concerning their care and transition (EULAR recommendation 8).

Conclusions: Newcastle-upon-Tyne hospitals transition services are in line EULAR recommendations in terms of MDT involvement in the transition process and addressing the medical needs of patients during transition, whilst signposting them to other agencies and ensuring they have copies of communication.

The audit also identified areas for improvement including: the need for a single named coordinator for all patients; ensuring discussions with patients about the transition process begin at an earlier age, and making sure patients are aware of and able to contribute to their documented and individualised transition plan.

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AB1108 THE EFFICACY AND SAFETY OF TREATMENT OF 152 NON-SYSTEMIC JUVENILE IDIOPATHIC ARTHRITIS PATIENTS WITH ETANERCEPT: FACTORS, ASSOCIATED WITH ACHIEVEMENT REMISSION AND RISK OF FLARE

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Background: Juvenile idiopathic arthritis (JIA) is the most frequent chronic inflammatory joint disease in childhood, required biologics administration if the previous therapy fails. Etanercept is the most worldwide biologic using in JIA patients.

Objectives: The aim of our study was to evaluate the efficacy and safety of etanercept in children with non-systemic categories of JIA and determine predictors of achievement of the remission and risk of flares.

Methods: In the retrospective observational study were included 152 children with non-systemic categories of JIA, treated with etanercept. Standard JIA measures and outcomes were utilised, remission was based on C. Wallace criteria (2004). We used descriptive statistics, χ^2 -test, Fisher's exact test, MacNemar test, Mann-Whitney, Wilcoxon, Friedman and log-rank tests, AUC-ROC analysis, odds ratio and relative risk calculation with Cox regression models.

Results: The cumulative remission was achieved in 58.8% patients during the trial. The maximum remission rates (80%) were in children with treatment duration near the 5 years and increased from year to year. Patient who achieved remission had less JIA onset age ($p=0.015$), age of inclusion in the study ($p=0.004$) and age of etanercept administration ($p=0.00007$). The main predictors of achievement remission were JIA onset age ≤7.8 years (OR=4.3 (95%CI: 1.9–9.8), $p=0.0003$), age of inclusion in the study ≤14.0 years (OR=2.85 (95%CI: 1.4–5.9), $p=0.00007$), age of etanercept administration ≤10.0 years (OR=3.5 (95%CI: 1.7–7.2), $p=0.0007$), time before etanercept administration ≤2.4 years (OR=2.7 (95%CI: 1.3; 5.5), $p=0.0007$). In Cox regression model ($p=0.007$) HLA B27 positivity (RR=2.15 (95%CI: 0.98; 4.75), $p=0.06$) and time before etanercept administration ≤2.4 years (RR=2.4 (95%CI: 1.4; 4.4), $p=0.003$) were main predictors of remission achievement. Polyarticular JIA increased the risk of flare compare to oligoarticular (RR=2.7 (95%CI: 0.9; 8.2), $p=0.08$), then concomitant methotrexate decreased the risk of flare (RR=0.32 (0.1; 1.15), $p=0.05$) in Cox regression model. During the

study etanercept was discontinued due to primarily or secondary inefficacy (9.2%), new onset of uveitis (5.2%) and other reasons (4.0%), including injecting site reaction. No serious adverse events, including severe infections, required hospitalisation were observed during the study.

Conclusions: Etanercept enables of induction of remission in JIA patients less than 10 years, with JIA duration less than 2.4 years, and whome have HLA B27-antigene. More stable effect was observed in oligoarticular JIA patients and who received concomitant methotrexate treatment.

Acknowledgements: Etanercept enables of induction of remission in JIA patients less than 10 years, with JIA duration less than 2.4 years, and whome have HLA B27-antigene. More stable effect was observed in oligoarticular JIA patients and who received concomitant methotrexate treatment.

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AB1109

MISSED CASES OF MACROPHAGE ACTIVATION SYNDROME IN JUVENILE IDIOPATHIC ARTHRITIS (RETROSPECTIVE STUDY)

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Background: Macrophage activation syndrome (MAS) is a complication of JIA which elevates morbidity and mortality. Early recognition, differentiation from activity of JIA itself and the subsequent introduction of aggressive treatment contributes to better prognosis.

Objectives: A retrograde study to investigate the occurrence of missed MAS among JIA patients to assess the extent of the problem among those patients.

Methods: The study included 100 JIA patients registered in paediatric departments over 2 years in urban areas of Cairo. All JIA subtypes where included. MAS was diagnosed according to preliminary diagnostic guidelines for MAS complicating sJIA.^{Ravelli et al., 2005} JIA patients who had history of recent infection, hepatitis or other liver disease, malignancy and pancytopenia were excluded. The hospital registry for JIA patients was scanned for medical history with special attention for records of history suggestive of MAS. Clinical examination, Laboratory investigations and radiological data. Complementary investigations were done when needed.

Results: Among the studied 100 JIA patients, 14% of patients fulfilled the criteria and were diagnosed awith MAS. Mortality rate was 2% of all JIA patients and 14% of JIA cases with MAS. Regarding gender, there were 10 females (71%) and 4 males (35%). Their age ranged from 3.5 to 18 years old (median 8 years). The disease duration ranged from 0.1 to 6 years (median 1.5 years). Ferritin level was elevated in all MAS patients. Renal affection was present in 10 MAS patients (71%) in the form of elevated serum creatinine level. In contrast to uncomplicated JIA where there was no significant renal involvement.

Table 1 Frequency of clinical manifestations of MAS among the studied patients

Clinical manifestations	JIA with MAS (n=14)	JIA without MAS (n=86)
Fever	14 (100%)	2 (2.3%)
Central nervous system manifestations	3 (21%)	-
Haemorrhage	1 (7.1%)	-
Hepatomegaly	9 (64%)	3 (3.4%)
Splenomegaly	6 (42%)	1 (1.1%)
Generalised lymphadenopathy	5 (35%)	-
Cardiovascular system manifestations	1 (7.1%)	7 (8.1%)

Table 2 Laboratory results among studied patients

Parameter	JIA with MAS Mean±SD	JIA without MAS
R red blood cells (10 ⁹ /mm ³)	3.4±0.6	4.66±0.73
Haemoglobin(gm/dl)	9.04±1.39	11.8±1.87
Platelets (10 ⁹ /mm ³)	124.29±85.8	299±90.053
WBCS (10 ⁹ /mm ³)	6361.43±3937.7	11989.6±6056.3
Aaspartate transaminase(u/l)	90.14±93.1	29.5±23.084
Creatinine (mg/dl)	2.19±0.91	0.73±0.2
International normalised ratio	2.04±0.6	1.07±0.14
Fibrinogen(mg/L)	203.5±86.02	317.86±67.39
Eerythrocyte sedimentation rate(mm/h)	28.29±13.12	17.56±2.83
C – reactive protein(mg/dl)	60.71±52.21	7.49±7.48

Conclusions: MAS is a potentially fulminant disorder whose incidence has increased due to raised manifestations awareness. It may be a complication of any JIA subtype but primarily systemic onset subtype. The diagnosis of MAS should be considered in presence of continuous fever, CNS, renal or haemorrhagic manifestation in JIA.

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AB1110

LIPID ABNORMALITIES IN CHILDREN AND ADOLESCENTS WITH JUVENILE IDIOPATHIC ARTHRITIS JIA

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Background: Atherosclerosis and its complications are known that one of the causes of lethality in rheumatic diseases. The risk of cardiovascular catastrophes increases not only with the prolongation of pathological process, but also in young patients, who are seropositive to rheumatoid factor and antinuclear antibodies in the early years of the disease.

Objectives: The study of lipid blood spectrum in patients with JIA with the definition of its clinical significance for the course of the disease was conducted.

Methods: 97 children (5–18 years) of patients with JIA were examined. The first group consisted of 38 children (39.2%) without symptoms of comorbidity, the second group, with signs of comorbidity, included 59 children (60.8%). The age of the debut of the disease in the first group was 6.3 years, and in the second group – 5.9 years. The duration of the disease at the time of the survey was 71 and 61 months. General clinical trials included the complex included autoantibodies, disease activity, drugs. Total cholesterol (TCh), triglycerides (TG), high density lipoprotein cholesterol, low-density lipoprotein cholesterol, apolipoprotein B, ApoA-I and lipoprotein-α were evaluated. The state of the blood coagulation system was also studied: fibrinogen of the blood, prothrombin index (PTI), thrombin time (TrT), active partial thrombin time, d-dimer, international normalised ratio.

Results: It was established that the parameters of the lipid blood spectrum changed in the presence of an increase in the level of fibrinogen. Patients with comorbidity had higher rates of low-density lipoprotein cholesterol (2.55 mmol/L versus 3.16 mmol/L; p<0.03), TG (0.99 mmol/L versus 1.04 mmol/L, p<0.03); the coefficient of atherogeny (3.10 mmol/L versus 3.24 mmol/L, p<0.03).

In the group of children with signs of comorbidity, there was a certain increase in the PTI and probable prolongation of the TrT (p<0.03), compared with the group without comorbid diseases. Children with JIA coagulation system parameters were also studied in a group of patients with signs of kidney damage. There is a probable increase in the PTI (p<0.05), which may indicate a predisposition to thrombosis.

It was found that in children with JIA with the presence of atherogenic changes in the lipid blood spectrum, there are signs of the hypercoagulation with parameters of the PTI (89.70±0.74% vs. 94.05±3.11%, p<0.05); fibrinogen (3.55±0.25 vs. 3.96±0.21 g/L, p<0.05) and the level of d-dimer (0.25±0.08 units versus 0.82 ±0.13 units), p<0.01).

Thus, in children with JIA, with signs of comorbidity, signs of hypercoagulation are established, especially in the presence of violations of the lipid profile of the blood. Regression analysis has shown that the greatest interaction exists between atherogenic dyslipidemia (the coefficient of atherogenicity) and d-dimer.

Conclusions: The obtained results confirm that the formation of comorbid pathology in children with JIA takes place against the backdrop of a close relationship between atherogenic changes in the lipid blood spectrum (the coefficient of atherogenicity) and signs of hypercoagulation (TG, d-dimer).

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