Letters to the Editors

Profile of initial drug therapy in paediatric systemic lupus erythematosus in Finland, 2000–2007

Sirs,

Paediatric systemic lupus erythematosus (SLE) is a serious, long-term disease with wide-spectrum appearances. The balance between the potentially life-threatening active disease and side effects of the pharmacological therapy is a challenge for a growing child and the specialists working in the field. The recommendations for the therapy are partly adopted from studies in adults (1). There is almost non-existent data on how the therapy of paediatric SLE is managed. We wanted to clarify the characteristics of nationwide drug therapy in incident pediatric SLE.

The Finnish paediatric population was 1 028,872 at the end of year 2007. Residents are mainly Caucasians (2). The permanent population is covered by the National Health Insurance which offers reimbursement for prescribed medicine expenses – in some chronic diseases like SLE with a higher special reimbursement. This is applied by a medical certificate describing the diagnostic procedure and the prescribed medical treatment according to good clinical practice. The administration process is described in detail in the incidence study published in 2014 (3). Data on SLE special reimbursement decisions for 0–16 year-olds between 1 January 2000 and 31 December 2007 in a nationwide register was utilised to collect an inception cohort of paediatric SLE. All purchases of the reimbursed drugs are documented in detail (Anatomical Therapeutic Chemical – code, amount, date) in the Drug Purchase Register. The data on all drugs purchased by the cohort were recorded from 31 days before and until the first year after the reimbursement decision. Medications given in hospitals and over-the-counter drugs are not included, since they are not reimbursed. The information on glucocorticoids is incomplete in 2006–07, since prednisolone 5 mg tablets were not reimbursed at that time. Data on medication for chronic comorbidities were also analysed. All patients were confirmed to be alive at the end of 2008 from the National Population Registry. Only unidentifiable register data was used and there was no legal requirement for approval by the ethics committee.

The incidence cohort included 33 patients (26 girls). The mean age at onset was 13.0±3.0 years. The proportions of pediatric SLE outpatient pharmacological therapies purchased during the first year are listed in Table I. Oral glucocorticoids and hydroxychloroquine were the most frequently purchased anti-rheumatic drugs, followed by methotrexate. The most frequent non-steroidal anti-inflammatory drug was naproxen and ibuprofen was the second. Five children received anti-hypertensive agents; two of them coped with a single drug. One patient received anti-coagulant and anti-epileptic therapy. Two patients – one at baseline and the other after five years – were entitled to special reimbursement for chronic renal insufficiency, secondary hypertension, secondary severe anaemia and chronic vitamin D metabolism disorder and one of them also for uraemia treated with dialysis and for severe malnutrition.

Table I. Proportions of paediatric SLE pharmacological therapies of 33 patients during the first year after diagnosis.

Medication	SLE patients n (%)
Anti-rheumatics	
Hydroxychloroquine	24 (73)
Methotrexate	7 (21)
Mycophenolate mofetil	2 (6)
Oral glucocorticoids *	25*
No anti-rheumatics	1 (3)
No immunosuppressive drug	24 (73)
Non-steroidal anti-inflammatory drugs	13 (39)
Paracetamol	5 (15)
Antibiotics	15 (45)
Antiviral agents	3 (9)
Anti-hypertensives	
Drugs affecting renin-angiotensin system	3 (9)
Calcium channel blockers	2 (6)
Beta-blockers	2 (6)
Diuretics	2 (6)
Others	
Levothyroxine	1 (3)
Zolmitriptan	1 (3)
Valproic acid	1 (3)
Varfarin	1 (3)
Erythropoietin	1 (3)
Bisphosphonate	1 (3)
Female sex hormones	2 (6)
Testosterone	1 (3)

*data incomplete for assessment in years 2006–2007.

The paediatric SLE is shown more active than adult-type disease already at presentation, especially concerning renal and haematological involvement (4-7). Regarding medication, the benefits of hydroxychloroquine are well-documented in adults (8). In the present study, three quarters of the patients started the therapy with hydroxychloroquine and about a quarter of them with immunosuppressive drug. In moderate to severe juvenile disease glucocorticoids are needed practically always (6). Immunosuppressive agents help to achieve and maintain remission and to lower the glucocorticoid dose (1, 6, 9). Methotrexate is used to treat mild or moderate juvenile SLE and is valuable in arthritis (6). Instead, mycophenolate mofetil seems to have a potent role in also lupus nephritis and tolerable safety profile in children (9, 10). Excluding anti-rheumatics, anti-hypertensives were the most used permanent drugs of these children. The individual disease course and the lack of clinical data do not allow the results to be generalised.

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