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Cladribine tablets are approved in Europe for the treatment of adults with highly active relapsing multiple sclerosis (MS). In general, in the EU, product labels may be too broad to provide recommendations on individual treatment options, leaving clinicians with many unanswered practical questions. Here we describe a consensus-based programme led by international MS experts with the aim of providing practical recommendations to support physicians in the use of cladribine tablets in real-life clinical practice.

Clinical recommendations were developed using a modified-Delphi consensus methodology by a steering committee (SC) of 9 international MS experts. The SC identified practical clinical questions concerning the use of cladribine tablets and a prioritisation exercise selected the 11 most important questions to answer. Statements to address each question were drafted using evidence obtained from a comprehensive literature search, a review of available evidence, and practical experiences and expert perspectives from SC members. An additional 33 faculty were invited to answer the questions via an online platform. Consolidated answers were reviewed and incorporated into clinical recommendations by the SC. Consensus on recommendations was achieved when  $\geq 75\%$  of respondents expressed an agreement score of 7–9, on a 9-point scale.

Consensus was achieved on 46 out of 47 clinical recommendations ( $n=34$ ). Consensus in the range of 90–100% was achieved on 34/46 recommendations, 10 recommendations achieved 80–90% consensus and 2 recommendations achieved 75–80% consensus. The strength of recommendations ranged from 7–9. The one statement failing to achieve consensus scored 60.6%. Expert-agreed practical recommendations are provided on topics including: the definition of highly active disease; the patterns of treatment response and suboptimal response with cladribine tablets; and switching to and from cladribine tablets.

These expert recommendations provide up-to-date relevant guidance on the use of cladribine tablets in clinical practice.

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### Efficacy of a Fourth Alemtuzumab Course in RRMS Patients from CARE-MS II Who Experienced Disease Activity After Three Prior Courses

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In RRMS patients with inadequate response to prior therapy, 2 alemtuzumab courses (12 mg/day; baseline: 5 days; 12 months later: 3 days) significantly improved outcomes versus SC IFNB-1a over 2 years

(CARE-MS II [NCT00548405]). Efficacy remained durable in a 4-year extension study (NCT00930553); patients could receive as-needed alemtuzumab retreatment ( $\geq 12$  months apart) for disease activity, or another disease-modifying therapy (DMT). Through Year 6, 88% remained on study; 50% received neither alemtuzumab retreatment nor another DMT; 16% received  $\geq 4$  courses; 3% received  $\geq 5$  courses. The objective was to evaluate Course 4 (C4) efficacy in RRMS patients receiving  $\geq 4$  courses of alemtuzumab.

Annualized relapse rate (ARR); improved/stable Expanded Disability Status Scale (EDSS) score (versus baseline); 6-month confirmed disability improvement (CDI). 11% of patients met inclusion criteria:  $\geq 4$  courses within 60 months of baseline; no DMT. Those receiving C5 were censored at that time.

ARR decreased after C4 (12 months pre-C4 [-12M]: 0.75; 12 months post-C4 [+12M]: 0.19;  $P < 0.0001$ ), remaining low (0.23) at Year 3 post-C4. More patients had stable/improved EDSS scores +12M (67.5%) versus at C4 administration (53.5%). Percentage of patients with CDI increased post-C4 (-12M: 10.0%; +12M: 26.7%).

C4 reduced relapses and stabilized/improved disability in patients with disease activity after initial treatment (C1, C2) plus one additional course (C3).

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### Second-Line Therapy in Multiple Sclerosis

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Multiple sclerosis (MS) patients with breakthrough disease on immunomodulatory drugs are frequently offered to switch to second-line treatment (SLT). No head-to-head study has been performed yet to assess whether SLT is more effective than classical immunomodulators. We aim to retrospectively assess the moment of introduction, efficacy and tolerance of SLT.

We retrospectively enrolled the patients in our department with relapsing-remitting MS (RRMS) who received first-line treatment (FLT) for more than 12 months than switched to SLT for 5 consecutive years. Outcome measures were Rio Score (RS) and modified Rio Score (MRS), annualized relapse rate (ARR) and changes in expanded disability status scale (EDSS) score. We also reported the side effects developed under SLT.

We enrolled 20 patients, 6 males and 13 females. They all received interferon before switch. Twelve were switched to Natalizumab (NAT) and eight to Fingolimod (FIN). When switch was decided, 16 patients (80%) had high RS (2 or 3) and 19 (95%) had high MRS (2 or 3). Mean ARR was at 2.4 at the switch to SLT, it decreased significantly to 0.73 (70%) after 12 months and 0.4 (84%) after 5 years ( $p < 0.001$ ). Nine patients were relapse-free after 12 months (75%) and 5 after 5 years (25%). Mean EDSS was at 3.36 at the switch to SLT, it significantly decreased to 3 after 12 months and 1.5 after 5 years ( $p < 0.001$ ). Side effects reported in 6 cases (30%); 3 cases of lymphopenia under FIN, 2 cases of lymphocytosis and on case of BK virus urinary infection under TYS.

MRS was better to predict suboptimal interferon responders than RS in our study. SLT was more effective than interferon on disease progress and activity during the first 5 years of treatment. However, prospective head to head studies are needed to get higher evidence level.

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