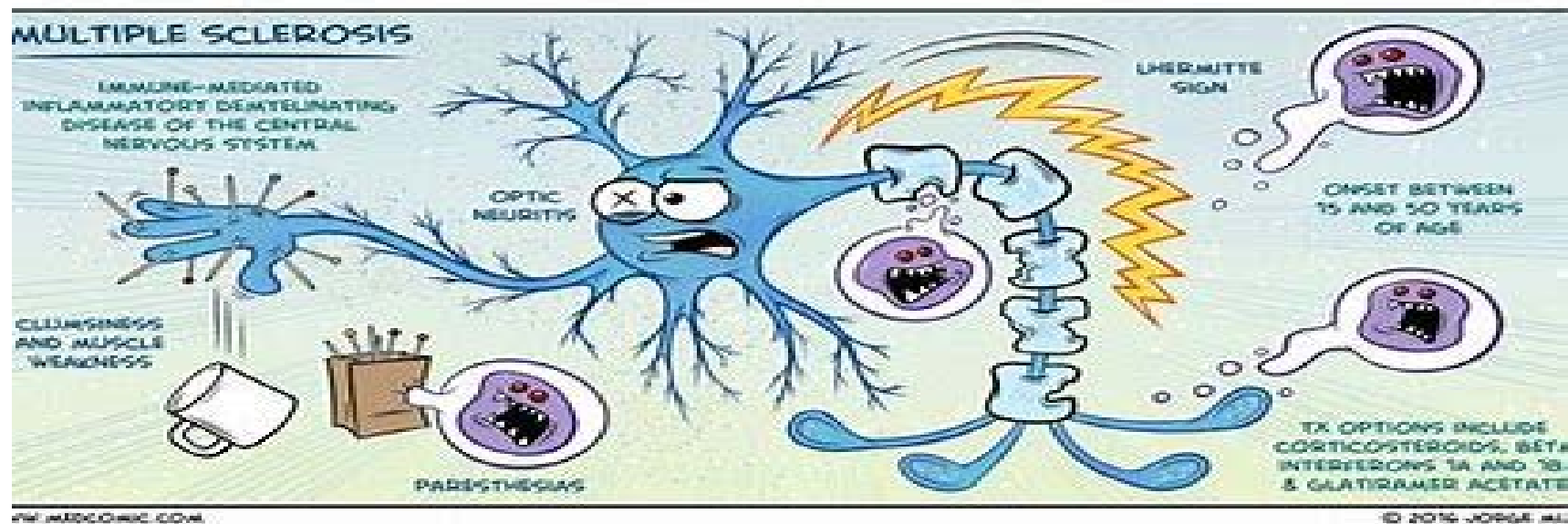
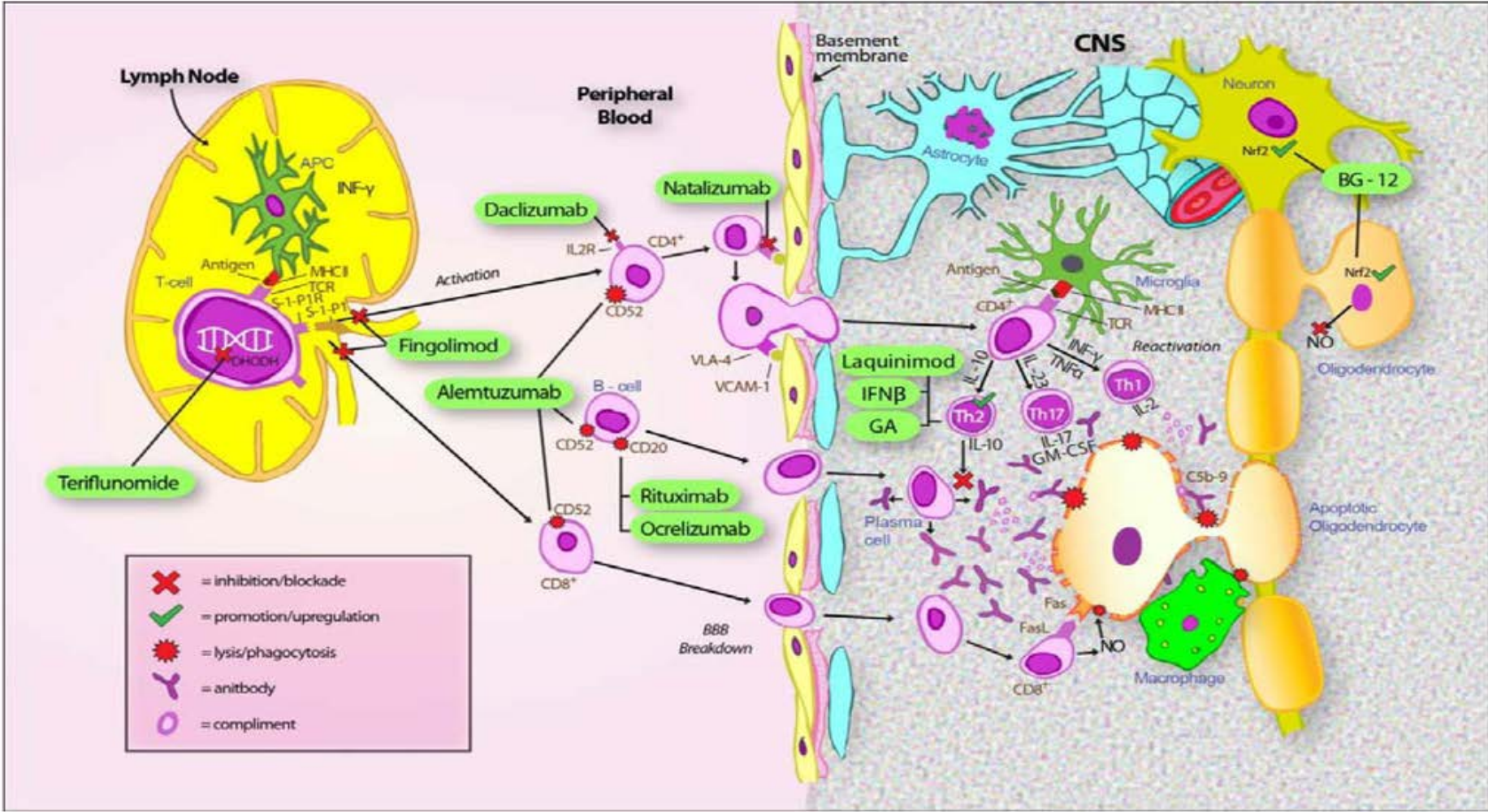


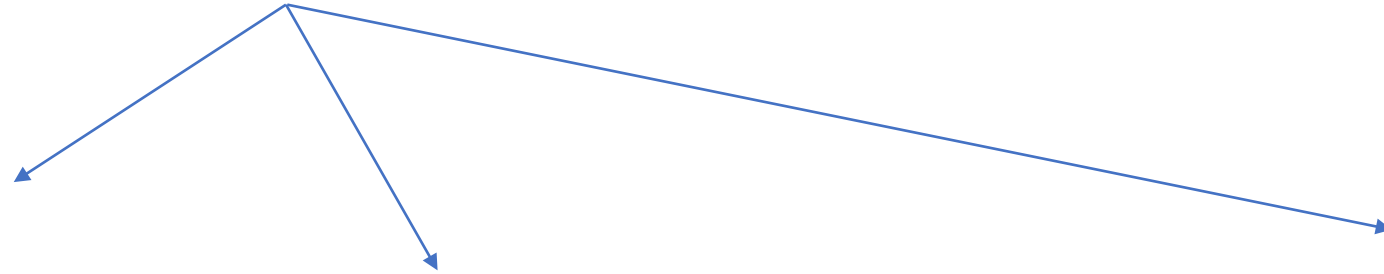
Monitorovanie NÚ liečby Sclerosis Multiplex

I.Hlinka, B., Hlinová: AlergoImuno centrum Kežmarok





LIEČBA



SYMPTOMATICKÁ

DMT (ochorenie modifikujúca)

LEČBA AKÚTNYCH RELABSOV

DMT

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graph TD; DMT --> MET; DMT --> IRT;
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MET (Maintenance/ Escalation therapy)

Chronická liečba, zasahujúca do funkcie Imunitného Systému iba počas aktívnej liečby

IRT (Immune reconstitution therapy)

Krátkodobá liečba, spôsobujúca dlhodobé , kvalitatívne zmeny Imunitného Systému

Imunomodulácia

INTERFERON
GLATIMER ACETAT

TERIFLUNOMIDE

Imunosupresia

FINGOLIMOD
OCRELIZUMAB

NATALIZUMAB
DIMETHYL FUMARAT

Parciálna IRT

CLADRIBINE

Kompletná IRT

MITOXANTRONE
ALEMTUZUMAB
HSCT

First line injectable therapies			
IFN-beta 1a and 1b	Avonex, Rebif, Betaseron, Betaferon, Extavia	Baseline: FBC, U&E, LFTs, TFTs, SPE, urine protein Follow-up: 1-month, 3-month, 6-month and 6-monthly FBC, U&E and LFTs. TFTs 12 monthly. NABs 12 and 24 months	Injection site reactions, flu-like symptoms, abnormal LFTs, lymphopaenia, leukopaenia
Peg-IFN-beta-1a	Plegridy	Baseline: FBC, U&E, LFTs, TFTs, SPE, urine protein Follow-up: 1-month, 3-month, 6-month and 6-monthly FBC, U&E and LFTs. TFTs 12 monthly. NABs 12 and 24 months	Injection site reactions, flu-like symptoms, abnormal LFTs, lymphopaenia, leukopaenia
Glatiramer acetate	Copaxone	None required	Injection site reactions, lipoatrophy, flushing reactions
Oral immunomodulatory therapies			
Dimethyl fumarate	Tecfidera	Baseline: FBC, U&E, LFTs, urine protein Follow-up: FBC and urine protein 3 monthly for a year, then 6 monthly	Flushing, gastrointestinal symptoms (dyspepsia, cramps and diarrhoea), lymphopaenia, abnormal LFTs, proteinuria, PML
Teriflunomide	Aubagio	Baseline: BP, FBC, U&E, LFTs, urine protein Follow-up: fortnightly LFTs for 6 months then every 8 weeks. Weekly LFT if ALT 2–3 × ULN. 3-monthly FBC for 1 year then 6 monthly	Hair thinning, gastrointestinal symptoms (nausea, diarrhoea), abnormal LFTs, leukopaenia
Oral immunosuppressive therapy			
Fingolimod	Gilenya	Baseline: BP, FBC, U&E, LFTs, TFTs, serum immunoglobulin levels, serology (VZV, HIV 1 and 2, hepatitis B and C, syphilis), interferon gamma assay for tuberculosis (or similar), electrocardiogram Follow-up: 3-monthly FBC, U&E and LFTs. TFTs 12 monthly. Optical coherence tomography at 3 months for macular oedema	Bradycardia (first dose), hypertension, bronchospasm, lymphopaenia, abnormal LFTs, infections, basal cell carcinoma, macular oedema, opportunistic infections (PML, cryptococcosis etc.)

<p>Intravenous immunosuppressive therapies</p> <p>Natalizumab Tysabri</p>	<p>Baseline: FBC, U&E, LFTs, JCV serology</p> <p>Follow-up: LFTs 3 monthly for a year. NABs at 12 months. JCV serology 6 monthly</p>	<p>Infusion reactions, PML</p>
<p>Ocrelizumab Ocrevus</p>	<p>Baseline: FBC, U&E, LFTs, TFTs, serum immunoglobulin levels, serology (VZV, HIV 1 and 2, hepatitis B and C, syphilis), TB elispot, cervical smear</p> <p>Follow-up: annual serum immunoglobulin levels</p>	<p>Infusion reactions, infections, possible hypogammaglobulinemia with prolonged use</p>
<p>Induction/immune reconstitution therapies</p> <p>Alemtuzumab Lemtrada</p>	<p>Baseline: FBC, U&E, LFTs, TFTs, serum immunoglobulin levels, serology (VZV, HIV 1 and 2, hepatitis B and C, syphilis), TB elispot, cervical smear</p> <p>Follow-up (for 48 months after last course): monthly FBC, U&E and urine analysis and 3-monthly TFTs</p>	<p>Infusion reactions, infections, opportunistic infections, leukopaenia, secondary autoimmunity (thyroid, immune thrombocytopenic purpura, renal etc.)</p>
<p>Cladribine Mavenclad</p>	<p>Baseline: FBC, U&E, LFTs, TFTs, serum immunoglobulin levels, serology (VZV, HIV 1 and 2, hepatitis B and C, syphilis), TB elispot, pregnancy test and cervical smear.</p> <p>Follow-up: FBC 2 and 6 months after start of treatment in each treatment year</p>	<p>Lymphopaenia, infections (in particular herpes zoster)</p>
<p>Mitoxantrone Novatrone</p>	<p>Baseline: FBC, U&E, LFTs, TFTs, SPE, serum immunoglobulin levels, serology (VZV, HIV 1 and 2, hepatitis B and C, syphilis), TB elispot</p> <p>Follow-up: 3-monthly (predosing) FBC, U&E and LFTs. TFTs 12 monthly</p>	<p>Leukopaenia, hair loss, nausea, vomiting, infections, cardiomyopathy, amenorrhoea</p>
<p>Autologous haematopoietic stem cell transplantation</p>	<p>Dictated by haematology protocols</p>	<p>Adverse events related to induction chemotherapy</p>

Klinické aj laboratórne monitorovanie NÚ liečby Sclerosis multiplex je nutné a žiadúce.

Má ho realizovať predovšetkým lekár indikujúci túto liečbu, teda NEUROLÓG v našich podmienkach v súčinnosti s IMUNOLÓGOM

Imunofenotypizácia základných populácií Ly a vyšetrenie sérových Ig je absolútne postačujúcim vyšetrením

Napriek kritike mnohých imunológov a významne imunologických vyšetrení pri monitorovaní NÚ liečby SM, odporúčam zachovať túto našu kompetenciu, nakoľko zvyšuje status imunológie ako odboru.