Objectives The Crystal Ball model is a previously published and externally validated algorithm.[1] that helps predict the individual response to Multiple Sclerosis (MS) therapies. In this study, we investigated the contribution of Neurofilament Light (NfL) chain levels to the prediction of treatment response.

Methods Data from 3 participating centers were collated to include patients with relapsing MS, recorded Expanded Disability Status Scale and NfL at baseline, while being treated with or commencing a disease modifying therapy. We used principal component analysis to reduce the dimensionality of the demographic and clinical data. Cox proportional hazards models with three principal components and treatment duration with vs. without NfL at baseline were used to model the risk of relapses, 6-month confirmed disability worsening and 9-month confirmed disability improvement. The accuracy of the NfL and non-NfL models was compared using 10-fold cross-validation and Harrell's C-index.

Results 1716 patients across 12 MS therapies were included (68% female, mean age 38±11). The accuracy of the prediction of treatment response in the models without NfL was comparable to the original study. Addition of NfL did not further increase the predictive accuracy (C-indices: relapses 0.59, disability worsening 0.64, disability improvement 0.82).

Conclusion Serum NfL, an emerging prognostic marker, does not substantially contribute to differentiating individual response to MS therapies among patients with various clinical and demographic characteristics. Clinical and demographic information remains the most useful indicator of future individual response to MS therapies.

REFERENCE

1. Kalincik T, Manouchehrinia A, Sobisek L, *et al*. Towards personalized therapy for multiple sclerosis: Prediction of individual treatment response. *Brain*. 2017;**140** (9):2426–2443. doi:10.1093/brain/awx185

2415 COLPOCEPHALY WITH REMOTE RIGHT PARIETAL INFARCTION AND CONGENITAL RUBELLA SYNDROME (CRS)

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10.1136/bmjno-2022-ANZAN.152

Objective Describe a rare and complicated case.

A 46 y/o female with CRS presented, post head-strike, with imaging showing remote right parietal infarct, colpocephaly and thinning of the corpus callosum.

Colpocephaly is a rare condition, reported in only a dozen adults. It occurs in 1:700,000 live births and is usually diagnosed before birth. It is an imaging diagnosis of the lateral ventricles: when the widest portion of posterior horn is greater than three times that of the anterior horn. It may be unilateral, bilateral, or asymmetric.

Pathophysiologically, it appears to reflect the retention of the early fetal configuration of enlarged ventricles that, usually, are slowly filled by the radial out-migration of cells from the subventricular zone (SVZ), to the Subplate (Sp) with the formation of white matter being the remnant of the subplate.

First reported in 1941, it has been associated with: dysgenesis of the corpus callosum, pachygyria, lissencephaly, schizencephaly, microcephaly, meningomyelocoele. Aetiologically it has been associated with intra-uterine infection, Intra-Uterine Growth Retardation, perinatal anoxic-hypoxic injury, maternal drugs, genetics, migration disorder. It may affect: cognition, cerebral palsy, gait, speech, epilepsy, vision.

Conclusion Remarkably, neurologically normal (or at least asymptomatic) children and adults have been reported although few have had extensive, appropriate, neuropsychological assessments. Neuropsychological assessment is marred by the lack of normalized data for such a unique group. Cerebral connectivity in this condition remains unexplored.

2416 CONGENITAL RUBELLA SYNDROME (CRS) WITH RARE COLPOCEPHALY

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10.1136/bmjno-2022-ANZAN.153

Objective First description of association of Colpocephaly with CRS

A 46 y/o female with Congenital Rubella Syndrome (CRS) presented, post head-strike, with imaging showing a remote prenatal right parietal infarct, and colpocephaly. She exhibited a smaller, spastic, right upper limb, bilateral congenital deafness. Cognitively, she had worsening behavioural and memory issues recently.

CRS was first flagged by Australian ophthalmologist Norman Gregg (1941). With effective vaccination, Rubella cases in Australia fell markedly, from 4,000 to less than 40 per year (92% now immune). CRS cases concomitantly fell from 300 to around 1 per year; to women born overseas (AusInstHealthWelfare). CRS outcomes reflect virus interaction s with the neurodevelopment epoch: early infection results in high embryo-fetal wastage. If contracted after week 20, little deficit results as neurogenesis, path-finding migration and synaptogenesis have progressed.

Brain involvement may result in mixtures of grey and white matter disease and infarction leading to blindness, deafness, intellectual impairment, shortened limbs. The virus may persist for decades. Neurodevelopment involves many simultaneous processes, in many different parts of the neuraxis that have delimited time-lines – both for immediate and consequential outcomes: these colour the final clinical picture. Other organ involvement includes cardiac outlet pathology.

Conclusion Colpocephaly (Ventriculomegaly of the posterior horns of the lateral ventricles) has not previously been a reported association. It's rarity, variation when it is noted, and associated lesions, have conspired to mean only case reports are available and no definitive study of neurologic dysfunction is available.

2420 NEUROPSYCHOLOGICAL DEFICITS POST-STROKE MAY INVALIDATE CONSENT

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10.1136/bmjno-2022-ANZAN.154

Objective Review pre-requisites of valid consent.

According to NSW Health Guidelines, consent, to be valid, entails four attributes: it be freely given; the patient must have capacity; it must be 'informed'; it be specified to a particular act or therapy. There are two unvoiced assumptions that underpin these requirements: that the mind is relatively 'fixed' over time and that awareness can be reliably measured.