Baló's disease showing benign clinical course and co-existence with multiple sclerosis-like lesions in Chinese

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Background and Objectives: Baló's concentric sclerosis is a rare demyelinating disorder usually considered as a variant of multiple sclerosis. The condition often affects young adults and results in cognitive impairment, altered behavior and focal neurological deficits. Its pathological hallmarks are large lesions characterized by alternating lamellae of demyelinated and relatively myelin-preserved white matter. The pathogenesis of Baló's concentric sclerosis remains largely unclear. This is the report of 7 cases seen in our Institution.

Results: Seven Han Chinese patients who visited our institution between July 1994 and April 2003 were diagnosed with Baló's concentric sclerosis. Among them, five were females. The age at onset ranged from 19 to 48 years. At onset, 3/7 cases presented with hemiparesis,3/7 with language problems and 2/7 with loss of consciousness. MRI suggested that the characteristic concentric lesions of Baló's concentric sclerosis coexisted with multiple sclerosis-like lesions in 5 of the 7 cases. Upon diagnosis, all the cases displayed good responses to corticosteroids. Within the duration ranging from 4–13.5 years, 3/7 cases relapsed for once. In the final follow-up, clinical symptoms were completely resolved in 3 patients and only mild weakness on one or two limbs were left in the remaining 4 cases. The follow-up MR in this stage showed that Baló-like lesions dissolved over time in 3 cases and transformed into a multiple sclerosis-like lesions in 2 cases.

Discussion and Conclusion: We presented here seven Chinese cases that had at least one lesion with the typical concentric appearance of Baló's concentric sclerosis. Although Baló's concentric sclerosis had been considered as a fulminant disease, our observation revealed that all the patients displayed good response to corticosteroid therapy and showed an overall benign prognosis. Therefore, early intervention with steroids might be a decisive factor influencing the clinical outcome of the condition. In addition, our observation suggested that the Baló- and multiple sclerosis -like lesions frequently coexist in the same patients. Furthermore, the Baló-like lesions may change over time and appear like classical multiple sclerosis lesions, indicating a pathological transformation mechanism that bridges the two forms of demyelination. The observations of our cases support the speculation that Baló's concentric sclerosis and multiple sclerosis represent a different manifestation of a single disease mechanism acting within different genetic and/or environmental backgrounds.