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Reply:

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Reply:

We thank Dr Oktay Algin for his insightful comments on our article.[1]

We agree that the relationship between ischemia and idiopathic normal pressure hydrocephalus (INPH) is not well understood. It still remains unclear if ischemia induces INPH or if INPH induces ischemia or if both take place. We also agree that there is no consensus on the role of stroke volume (SV) in the selection of patients to undergo shunt treatment.[2-7] As previously reported,[8,9] the value of SV is of little importance if it is not correlated with clinical findings for each patient and with the timing of symptom onset.

In our experience, it is clear that patients with high a SV and a short time of onset of symptoms have a higher probability of improvement with shunt treatment, compared with patients with lower SV and a longer time of symptom onset.[1] Although currently SV cannot be used as an absolute tool for selection of patients who will be shunt responders, our study shows promising results in the potential utility of SV and may encourage additional studies.

Even with our data, it is hard to predict a given patient's response to shunt surgery on the basis of the SV versus time-of-symptom-onset curve because the response changes with the progression of the disease and the timing of the shunt therapy. We agree with Dr Algin that we cannot delay treatment to obtain a series of SV controls before shunt therapy. Studies comparing SV with other selection tests are currently being performed at our institution.

Currently, in our clinical practice, after submitting the patient to a baseline SV study, we select patients with INPH by a prolonged spinal drainage (PSD) of CSF. PSD is considered the present criterion standard for shunt selection in patients with INPH.[10] Moreover, the immediate benefit offered by the PSD, though temporary, is encouraging for the patient and may help him or her to pursue definitive treatment with the shunt. Furthermore, for those patients for whom SV data suggest a possible irreversible state of the disease, we can give them a choice of undergoing the PSD procedure or pursuing further treatment with shunt surgery on the basis of the results from the PSD.

We hope that our study contributes to the knowledge of the etiology of this complex disease process. In addition, we hope to have contributed to a more standardized approach in the selection of patients for shunt therapy.

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