Ischemic Stroke in COVID 19- Management Dilemmas

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Sir,

This is with reference to “Consensus statement – suggested recommendations for acute stroke management during the COVID-19 pandemic: Expert group on behalf
Cerebrovascular disease has been Over 85% of our Covid related strokes an underestimation, as in the initial Covid 19 (1.6%). The latter is actually date, 62 of them being Stroke with tertiary care public hospital which has had 3904 covid admissions to published guidelines. We work in a which was published recently. These guidelines have important implications in the management of covid related stroke, by physicians.

There are some points concerning management dilemmas, based on our experience in management of stroke in Covid 19 over 8 months, that we would like to highlight. These have not been specifically addressed in the published guidelines. We work in a tertiary care public hospital which has had 3904 COVID admissions to date, 62 of them being Stroke with Covid 19 (1.6%). The latter is actually an underestimation, as in the initial weeks we did not recognize that stroke could be a presentation of Covid 19. Over 85% of our Covid related strokes are infarcts. The incidence of acute cerebrovascular disease has been reported to be 1-6% in Covid 19.2,3

At one end of the spectrum, we are seeing Covid positive older males with multiple pre-existing vascular risk factors, a lacunar stroke at presentation with a normal CT angiogram, and minimal respiratory symptoms with low levels of inflammatory markers. At the other end of the spectrum are young persons with no vascular risk factors, presenting with large cortical plus subcortical infarcts with concordant proximal arterial thrombosis, and moderate to severe respiratory involvement with raised inflammatory markers. All permutations and combinations of this presentation exist, along this spectrum. Covid-19 may hence be a bystander, a precipitating factor, or the direct culprit, in the stroke.

In all Covid 19 patients who fall in the moderate to severe category, with raised inflammatory markers during admission, our practice is to administer heparin during admission, and advise oral anticoagulation for at least 4 weeks at discharge, as per published guidelines.4,5 We started following this policy in May 2020, after noticing that a few discharged patients returned after 2-3 weeks with thromboembolic phenomena. We have had no anticoagulation related bleeding complications on follow up.

We have noticed that stroke and myocardial Infarction are often the presenting feature of Covid 19, or, at the least, occur very early in the course of the disease. The proposed pathogenesis is virus induced endothelial inflammation causing loss of thromboprotective mechanisms, excess thrombin generation, and dysregulation of fibrinolysis.6-8 By their very presence in the course of the disease, they signify a severe Covid infection, and hence, should merit consideration of anticoagulation at discharge, even if the associated respiratory disease was mild. Naturally, the stroke itself needs to be assessed in terms of likelihood of being directly related to covid-19, in terms of type of stroke, associated vascular risk factors and angiographic abnormalities etc., before decision on anticoagulation at discharge.

We have the example of CHA DS2- VAS-c score vs HAS-BLED score, where we weigh the risk of thrombosis vs bleeding, and make a decision on anticoagulation advice in nonvalvular atrial fibrillation.9 In the present situation of stroke in Covid 19, however, there is far less clarity. On the one hand there is a thrombophilic propensity, and on the other, there may be thrombocytopenia.10 Additionally, the size of the infarct, increasing age, uncontrolled blood pressure, and ongoing antiplatelet therapy, may also influence risk of secondary bleeding.

It is therefore important to recognize that there are treatment dilemmas in covid related ischemic stroke management, owing to its variable presentation, even while acknowledging that no definite guidelines are presently available on these.

References