When Asymmetry is the rule only Dyke & Davidoff Can Help
An Interesting Case of Cerebral Hemiatrophy
(Clinical Image)

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Abstract
Here we present an interesting case of hemiatrophy of the brain resulting from any insult to the growing brain, which leads to corresponding phenotypic manifestations in the body.

Keywords: Hemiatrophy, Dyke-Davidoff-Mason syndrome.

Case Details
A 27 year old gentleman was referred from the ophthalmology department in view of dysmorphic facial features. On evaluation he was found to have a hemi facial atrophy, hemiparesis on the left side. There was no other significant past history. On routine imaging studies, he was found to have a grossly asymmetrical brain, with atrophy of all cerebral hemispheres proportionately on the right side along with increased thickness of the skull on the affected right side as shown.

Dyke-Davidoff-Masson syndrome is a clinical syndrome characterized by hemiparesis, facial hemiatrophy, seizures, speech impairment and occasionally mental retardation. It is most often seen in the male gender. It was first described by the three clinicians in 1933 in a series of 9 patients describing in detail their clinical, radiological characteristics. The MRI features include the presence of cerebral hemiatrophy, calvarial thickening on the same side, pneumatisation of the sinuses on the same side.

The differential diagnosis in such cases to be considered are:
1. Dyke-Davidoff-Masson syndrome
2. Silver-Russel syndrome
3. Sturge-Webber syndrome
4. Rasmussen’s encephalitis
**Figure 1:** Shows an axial T2 weighted image which shows:

1. **Yellow Oval** - Grossly asymmetrical *gyrus rectus*, right atrophied compared to left
2. **Red Oval** - Atrophied *mammillary body* on the left compared to the right
3. **Yellow Arrow** - Gross asymmetry in the sizes of the *cerebral peduncles*
4. **Red Arrow** - Dilated *temporal horn* of lateral ventricle on the right side as compared to the left side.

**Figure 2:** Shows an axial T2-Weighted MRI image which shows the characteristic asymmetry in:

1. **Yellow Oval** - Sizes of the two hemispheres, along with the sulci-gyri patterns.
2. **Red Arrow** - Dilated Lateral ventricles on the affected right side.
3. **Yellow Brackets** - Thickness of the calvaria more on the right side. (although CT would have been more ideal modality to assess the skull thickness)

**References**