



**Children's Hospital  
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**To whom it may concern**

**Re: HEMPEL, Addison**

**03/14/2008**

Dear Sir/Madam:

Enclosed please find the images for the F-18-FDG PET scan and C-11-PK11195 PET scan, performed on Addison Hempel on 03/06/08 and 03/07/08, respectively.

**FDG PET scan**

The FDG PET scan shows prominent metabolic activity in the basal ganglia bilaterally suggesting a diffuse cortical hypometabolism. The frontal cortex, particularly the medial frontal regions (arrows), shows the most severe hypometabolism. This type of pattern is relatively non-specific, but is not surprising considering cognitive delay. The occipital lobe appears relatively preserved. The thalamus and the brain stem appear normal. The cerebellum shows relatively low glucose metabolism. However, there are no normal values for absolute comparison and the metabolism in cerebellum is known to vary widely even among normal subjects. These findings should be further correlated with the clinical phenotype. It may also be useful to repeat the study in the future to assess possible progression.

**PK PET scan**

Preliminary analysis of the C-11 PK11195 PET scan, done under our IRB-approved research protocol, did not reveal any specific area of abnormal radiotracer binding. However, the radiotracer binding may depend upon the presence and the severity of the underlying neuroinflammation and any anti-inflammatory treatment. Further clinical correlation is suggested.

Sincerely,

**Harry T Chugani, MD**

*We treat your children like our own.*



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Re: **HEMPEL, Cassidy**

**03/14/2008**

Dear Sir/Madam:

Enclosed please find the images for the F-18-FDG PET scan and C-11-PK11195 PET scan, performed on Cassidy Hempel on 03/07/08 and 03/06/08, respectively.

**FDG PET scan**

The FDG PET scan shows prominent metabolic activity in the basal ganglia bilaterally suggesting a diffuse cortical hypometabolism bilaterally. This is more apparent compared to her sister. The hypometabolism appears to be most pronounced in the frontal lobes, particularly in the medial portion of the frontal cortex (arrows). This type of pattern is relatively non-specific, but is not surprising considering cognitive delay. The occipital lobe appears relatively preserved. The thalamus, brain stem and cerebellum appear normal. These findings should be further correlated with the clinical phenotype. Since there are limited data on FDG PET scans in NMC, it may be useful to repeat the scan if there is clinical progression.

**PK PET scan**

Preliminary analysis of the C-11 PK11195 PET scan, done under our IRB-approved research protocol, shows increased radiotracer binding in the right basal ganglia (arrows), suggesting active underlying neuroinflammation. As no previous data on PK PET scan in this disorder are available, further clinical correlation is suggested. It may also be useful to repeat the study in the future to assess disease evolution.

Sincerely,

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