



Fig. 4 Selected mapping of a patient during avoidance and consumption of provoking foods.

Provoking foods cause both increased β_1 activity across the prefrontal and especially the left prefrontal surface of the brain as well as hyperactive behavior as monitored with the Conners short form.

The percentile numbers are the ratio of signal power from 12.5 to 18.0 Hz to that from 0.5 to 35.0 Hz. The actual measurements were made with a spatial sampling of only 16 scalp electrodes indicated as the small circles (2 on and 5 over the forehead, 5 across the top of the head and 2x2 in the rear, with reference being the two ears together as common ground). Then these point measurements were extrapolated to the smoothed gradient plots shown. Artifacts were removed from recorded time segments, such as known to be associated with eye blinking or other behaviors, and the data were analyzed in 2 sec epochs with a total of 30 sec of data the minimum for useability. An average was taken from five minutes of data from each of three patient conditions: eyes closed and body still, eyes closed with regular closing of right fist, eyes fixed on small object and body still.

Initial selection of 45 ADHD patients was made on the basis of fulfilling at least 8 of the 14 criteria of the DSM-III-R and also scoring higher than 15 on the Conners short form scale.^{Appendix D} They were treated on an outpatient basis with elimination diet and no medications except colorless antibiotics as necessary. Of the 71% that responded to an elimination diet, fifteen agreed to participate in the crossover EEG mapping study. Of these, two showed no change in behavior during the crossover study and one did not adhere to the diet. For the final twelve, the above is a typical result with EEG's taken following a one to two week period of either elimination or provoking diet.