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January 20, 1971

CDP

TO: Dr. Henry Blackburn
Dr. Jeremiah Stamler

FROM: Dr. Suketami Tominaga

SUBJECT: Closer Look at the Baseline CDP ECGs Initially Coded as Having No Codable Q/QS.

Enclosed are the summary tables of the comparison between the coders' first, second and third readings and the physicians' clinical impressions. A sample of the 45 baseline ECGs for which the coders found no codable Q/QS in their first reading were pulled. These ECGs were independently read three times by coders and once by Cheryl Squires, who is the ECG coordinator at the CDP Coordinating Center. These 45 ECGs were later independently reviewed by Dr. Blackburn and me. As may be seen in Table 1, the summary clinical impression was given to each ECG. For more detailed findings and discussions, please refer to my memo dated January 8, 1971, "No codable Q/QS and no ECG abnormality" and to Dr. Blackburn's memo dated January 10, 1971, "Baseline CDP ECGs coded as having NO Q WAVES."

Dr. Blackburn and I confirmed a certain previously known built-in lack of sensitivity of the Minnesota code, designed to avoid "false positives" in population studies. The coders found codable Q waves in 3 out of the 45 cases in their second and third readings, while I found abnormal Q waves or residua of infarcts in 19 cases and Dr. Blackburn found such findings in 21 cases. Please see Table 2, which gives comparisons of Dr. Blackburn's clinical impression with coders' first, second and third readings, Cheryl Squires' first reading and my clinical impression.

Assuming Dr. Blackburn's clinical impression is correct, the sensitivity, the false positive and the agreement ratio were computed for the coders, Cheryl and me. The girls' sensitivity ranged from 14.3 to 19.1% and my sensitivity was 71.5%. On the other hand, the coders' false positive rate was 0.0% and my false positive rate was 16.7%. Thus, it seems that physicians find far greater numbers of abnormal Q waves than the coders do by using the Minnesota Code.

As Dr. Blackburn already proposed in his memo of January 10, 1971, the discrepancy between coders' readings and physicians' impressions can be adequately explained in publications under the METHOD section but not in the RESULTS section. I would recommend not to make any

procedural change in coding and not to modify the CDP ECG criteria in order to improve the sensitivity. Finally, I think a similar special study will be useful to evaluating our "arm-chair criteria" of significant serial ECG changes by comparing them with the study physician's clinical diagnosis of the interim events as well as the cardiologist's ECG impressions.

ST/amb
Enclosures

cc: Dr. Christian R. Klimt
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Dr. Paul L. Canner
Dr. Thomas Landau
Dr. Yoshiyuki Ohno
Miss Robin MacGregor
Miss Cheryl Squires