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COMPUTER-ASSISTED METHOD FOR EVALUATION AND DOCUMENTATION
OF DATA FROM GLUCOSE CONTROLLED INSULIN INFUSION SYSTEMS
IN CRITICALLY ILL PATIENTS. G. Müller-Esch, A. Peters,
M. Göhl, M. Mewes, P. C. Scriba, Klinik für Innere Medizin,
Medizinische Hochschule Lübeck, Lübeck, Germany.

Glucose controlled insulin infusion systems (GCIIS) seem
to be a valuable tool in the metabolic treatment of
critically ill patients. The incidence of 4320 measure-
ments from the GCIIS during a 24-hour control period is
the main reason for developing this method, which permits
a comfortable handling of a vast number of data. The
procedure is based on a BASIC computer programme, that
will be demonstrated.

Inputmode: An interface between the GCIIS and the micro-
computer PC 800 (MAGIRUS DATENTECHNIK) has been employed
to transfer all data directly at one minute intervals.

Calculations: The following parameters characterizing the
state of carbohydrate metabolism, may be calculated:
- MBG = mean blood glucose
- M-value = a measure for the duration and the degree of
  pathological blood glucose levels (1)
- MAGE = mean amplitude of glycemic excursions (2)
- an index indicating the sensitivity to insulin.

Record: Blood glucose, insulin rate and dextrose rate are
plotted continuously. Comments will be printed, too.

Documentation: All recorded data are stored on a 5 inch
floppy disk.

Conclusion: The method permits complete processing of
GCIIS-data, which is almost impossible when confined to
manual computation. Its usefulness in the treatment of
critically ill patients, especially during metabolic
therapy with glucose-insulin-potassium in acute myocar-
dial infarction, will be demonstrated (Supported by the
Federico Foundation).