LETTERS TO THE EDITOR

The British Heart Journal welcomes letters commenting on papers that it has published within the past six months.

All letters must be typed with double spacing and signed by all authors.

No letter should be more than 600 words.

In general, no letter should contain more than six references (also typed with double spacing).

\[ \beta \text{-Endorphin release in patients after spontaneous and provoked acute myocardial ischaemia} \]

Sir,—Oldroyd et al (British Heart Journal 1992;67:230–5) claimed that there were no previously published data on the \( \beta \)-endorphin response to myocardial ischaemia or infarction and that they were first to show that \( \beta \)-endorphin is released to plasma during myocardial infarction. This is not correct.

In our study published in 1987 we used a specific \( \beta \)-endorphin radioimmunoassay to show increased concentrations of \( \beta \)-endorphin during myocardial infarction but normal concentrations during unstable angina pectoris.1 The highest \( \beta \)-endorphin concentrations were found in patients with cardiac failure and in those who died within 24 hours. Pain ratings by use of a Visual Analogue Scale were different in myocardial infarction and unstable angina pectoris. These results are beautifully replicated by Oldroyd et al in a similarly designed study.2 It is disappointing that our similar previous study is not cited among their 46 references. It is also appropriate to mention that a study found no increase in plasma \( \beta \)-endorphin during myocardial infarction but a transient correlation between pain intensity and plasma \( \beta \)-endorphin.3

FLEMING W BACH
Anesthesia Research Laboratory
University of California San Diego
La Jolla, CA 92039, USA


This letter was shown to the author who replies as follows:

Sir,—I apologise to Dr Bach and colleagues and Dr Stoupe and colleagues for failing to identify their important publications. It is reassuring to note that in many respects their preliminary observations were confirmed in our larger study population. I would like to make the following brief comments.

Despite using a similar assay system with a normal range that was comparable to that used by Bach et al we were unable to identify any relation between pain scores and \( \beta \)-endorphin concentrations in patients with myocardial infarction. The statistically significant but biologically weak positive correlation reported by Bach et al was not obtained with visual analogue pain scores as stated but with a “four point verbal rating scale”. A visual analogue scale was used to assess pain during induced forearm ischaemia and no correlation with \( \beta \)-endorphin concentrations was found.

In the study of Stoupe et al the absence of any difference in \( \beta \)-endorphin concentrations between healthy controls (n = 7) and patients with acute myocardial infarction (n = 26) is probably the result of the much longer delay from the onset of symptoms to the time of blood sampling in their study. This also explains the spurious negative correlation with pain intensity. Their results are consistent with our observations in showing that the highest \( \beta \)-endorphin concentrations were seen in patients with crea-
tine kinase concentrations > 1500 IU/L.

KEITH G OLDROYD
The Toronto Hospital,
55 University Avenue,
Toronto, Ontario MSG 2C4 Canada


A model to simulate the effects of right heart pulsatile flow after modified Fontan procedure.

Sir,—Tamaki et al reported in vitro flow studies showing that in their apparatus active pulsation of a valveless chamber, designed to represent the right heart in a Fontan circulation, led to a measurable rise of flow in the tubing downstream. They took this to indicate “that pulsatile pul-
monary blood flow is likely to have a benefi-
cial effect on the pulmonary circulation after the modified Fontan procedure”. They may be correct in suggesting that pulsatility has a beneficial effect in the living pulmonary vasculature, reducing the net resistance of a branching system of delicate, compliant vessels, but we believe they are wrong to deduce this from their experiment.

The explanation that they offered for their finding was that pulsation decreased the resistance to flow through the non-elas-
tic tubing downstream of their valveless pump chamber. This explanation is unlikely to be correct. Superimposition of pulsatility on continuous flow through non-elastic...
β-Endorphin release in patients after spontaneous and provoked acute myocardial ischaemia

Flemming W Bach and Keith G Oldroyd

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