ANAPHYLACTIC REACTION TO INTRAVENOUS ADMINISTRATION OF PROCaine

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During the past three years the use of procaine intravenously has become more and more popular. Tovell, Graubard, Martin and others have written and spoken extensively on the subject. The following case is reported because it records both an uncommon use of this drug and an uncommon reaction to it.

A white woman, aged 74, had had hypertensive arteriosclerotic cardiovascular disease for at least four years. Since 1945 she had had an auricular fibrillation which was kept under control with digitalis. In October 1946 she was hospitalized because of transient attacks of minor motor aphasia. The discharge diagnosis was: (1) hypertensive cardiovascular disease, arteriosclerosis and (2) cerebral arteriosclerosis. She was given digitalis, aminophylline and nicotinic acid and had been taking these medications almost continuously ever since.

On June 25, 1948, she began to complain of painful, cold legs of about one week’s duration. Marked arteriosclerosis with a weak dorsalis pedis pulse was found bilaterally. She was treated symptomatically for a while but grew worse. Next she was given intramuscular injections of etamon chloride. This did not relieve her pain and the side effects were quite unpleasant. The legs remained cold and in August an ulcer began to form on the left shin. At this time she was receiving 2 cc. of depropapenex daily. There was still no relief and the ulcer continued to grow.

On October 6, 1948, she was given her first intravenous injection of procaine, 0.5 Gm. in 500 cc. of normal saline solution. All subsequent doses were 1.0 Gm. in 500 cc. The response was prompt and gratifying. There was almost immediate relief of the pain and in a few days definite circulatory improvement was visible. Subsequent injections were given on October 8, 10, 12, 14, 16, 19, 21, 24, 27 and 31 and on November 3. At no time was there any suggestion of a toxic reaction. The ulcer had begun to heal and the treatments had come to be accepted by the patient as a normal routine. All injections took from one to one and one-half hours.

On November 7, about two hours after her regular treatment, she had a mild chill and a slight attack of dyspnea. This was so slight that
the attending physician was not notified until the next day. It was
thought that this reaction might be due to some pyrogen in the syringe
used to transfer the procaine from the ampule to the infusion bottle.

On November 10 the patient was again given her regular injection.
Two hours after the completion of the treatment she awoke from sleep
and complained of shortness of breath. Severe dyspnea, wheezing and
vasomotor collapse developed rapidly. Upon arrival of a physician
it was evident that she was having a severe anaphylactic reaction.
Epinephrine and benadryl were administered hypodermically. Re-
covery took place in about one half hour but some dyspnea remained
for about six hours.

The injections were stopped. On November 15 an intradermal
test, using 0.05 cc. of 1 per cent procaine was done. No reaction was
obtained.

The ulcer, meanwhile, continued to heal. She had very little pain
in the leg until December 10. By December 17 the pain was so severe
that it was decided to try another injection. The same dose of pro-
caine was used but it was administered very slowly—500 cc. in two
hours.

Two hours later the patient became quite confused mentally and
dyspneic. Epinephrine was administered at once with good results
except that the patient was markedly stimulated and required morphine
for sedation. She remained somewhat confused for the next twenty-
four hours.

Needless to say she has had no more procaine. She is now receiv-
ing priscol, 25 mg. four times a day. The ulcer has completely healed
and she has very little pain.

**Summary**

A case is presented in which procaine administered intravenously
was successfully used for the treatment of arteriosclerotic peripheral
vascular disease. A major complication in the form of induced sensi-
tivity and subsequent anaphylactic shock was encountered. We have
since learned that acquired sensitivity to procaine is not rare and is
fairly common as a cutaneous sensitivity in dentists who handle this
drug frequently.

**Connecticut State Society of Anesthesiologists**

A meeting will be held on December 14, 1949 at 8:00 P.M.

at the

Charlotte Hungerford Hospital, Torrington, Connecticut,

where the following program will be presented:

1. "Signs and Symptoms of Stages of Pentothal Anesthesia," by Benjamin
   Eisten, Professor of Anesthesiology, Tufts College Medical School, Boston,
   Mass.
2. Anesthesia Study Commission Case Report.