DECHOL Tablets

COMPOSITION: White, compressed tablet containing diethylstilbestrol 3% (250 mg.) and extract of biliary ducts 1/6 mg. (0.05 gm.)

ACTION AND USES: Natural hydrocholesterol for promoting drainage of the biliary ducts by increasing flow of bile into the intestine. It may be used in the management of common duct obstruction.

ADMINISTRATION AND DOSAGE: One or two tablets t.i.d.

CONTRAINDICATIONS: Complete obstruction of common duct.

HOW SUPPLIED: Bottles of 100, 500, 1000 and 5000.

Amfre-Grant, Inc.
924 ROGERS AVE.
BROOKLYN 2, N. Y.

ARIL Tablets

COMPOSITION: Each two-layer AMRIL BLET contains:

- 200 mg. Thymoline
- 150 mg. Ascorbic Acid
- 130 mg. Scopolamine hydrobromide
- 60 mg. Chloral hydrate
- 50 mg. Sodium para-aminobenzoate
- 5 mg. Methylparaben
- 5 mg. Propylparaben

ACTION AND USES: For prompt, safe relief of symptoms associated with insomnia due to emotional stress.

ADMINISTRATION AND DOSAGE: Two tablets every four hours until pain is relieved, then one tablet every eight hours.

HOW SUPPLIED: Bottles of 50, 100, 500 and 1000.

NATURAL PRODUCTS:

COROVAS Tablets

COMPOSITION: Each pink and blue tablet contains:

- 25 mg. Scopolamine hydrobromide
- 1 mg. Ethylamino-naphthoate (Butazolidine) 100.0 mg.
- 60 mg. Methylparaben hydrochloride

ACTION AND USES: BANUSAN tablets provide control of several psychological symptoms of anxiety and insomnia, such as restlessness, irritability, and tension.

CONTRAINDICATIONS: Discontinue if blistering, redness, or discharges occur.

LITERATURE AVAILABLE: Yes.

Amfre-Grant, Inc.
924 ROGERS AVE.
BROOKLYN 2, N. Y.

BANUSAN Tablet

COMPOSITION: Each blue tablet contains:

- 100 mg. Scopolamine hydrobromide
- 1 mg. Ethylamino-naphthoate (Butazolidine)
- 60 mg. Methylparaben hydrochloride

ACTION AND USES: BANUSAN tablets provide control of several psychological symptoms of anxiety and insomnia, such as restlessness, irritability, and tension.

CONTRAINDICATIONS: Discontinue if blistering, redness, or discharges occur.

LITERATURE AVAILABLE: Yes.

Amfre-Grant, Inc.
924 ROGERS AVE.
BROOKLYN 2, N. Y.

COMPANY'S PRODUCT IDENTIFICATION MARK(S): "B" imprinted on tablet.

LITERATURE AVAILABLE: Yes.

BANUSAN Tablets

COMPOSITION: Each blue tablet contains:

- 100 mg. Scopolamine hydrobromide
- 1 mg. Ethylamino-naphthoate (Butazolidine)
- 60 mg. Methylparaben hydrochloride

ACTION AND USES: BANUSAN tablets provide control of several psychological symptoms of anxiety and insomnia, such as restlessness, irritability, and tension.

CONTRAINDICATIONS: Discontinue if blistering, redness, or discharges occur.

LITERATURE AVAILABLE: Yes.

Amfre-Grant, Inc.
924 ROGERS AVE.
BROOKLYN 2, N. Y.

DIDRITAB Tablets

COMPOSITION: Each chocolate enteric coated tablet contains:

- 50 mg. Theobromine
- 100 mg. Sodium Salicylate
- 50 mg. Phenobarbital

ACTION AND USES: For the relief of anxiety and insomnia.

CONTRAINDICATIONS: None.

LITERATURE AVAILABLE: Yes.

Amfre-Grant, Inc.
924 ROGERS AVE.
BROOKLYN 2, N. Y.

DICORVIN Tablets

COMPOSITION: Each uncoated tablet contains:

- 30 mg. Transyltol (des)
- 60 mg. Ascorbic Acid
- 15 mg. Riboflavin

ACTION AND USES: For the relief of rheumatoid arthritis, especially that associated with chronic disease states.

CONTRAINDICATIONS: None.

LITERATURE AVAILABLE: Yes.

Amfre-Grant, Inc.
924 ROGERS AVE.
BROOKLYN 2, N. Y.

DIVULAT Tablets

COMPOSITION: Each chocolate enteric coated tablet contains:

- 50 mg. Theobromine
- 100 mg. Sodium Salicylate
- 50 mg. Phenobarbital

ACTION AND USES: For the relief of anxiety and insomnia.

CONTRAINDICATIONS: None.

LITERATURE AVAILABLE: Yes.

Amfre-Grant, Inc.
924 ROGERS AVE.
BROOKLYN 2, N. Y.
ADENYLIC ACID SALTS-GELATIN COMPOSITION

Edward K. Harvill, Essex, Conn., assignor to
Ernst Biscoff Company, Inc., Ivoryton, Conn.,
a corporation of Connecticut

No Drawing. Application September 16, 1952,
Serial No. 399,964

18 Claims. (Cl. 167—82.9)

1. This invention relates to a therapeutic composition for administration to humans and which has a prolonged therapeutic action in the body, comprising an alkaline metal salt of adenylic acid, and more particularly to a therapeutic composition comprising an alkaline metal salt of adenylic acid, dissolved in an aqueous, slowly absorbable menstruum comprising gelatine.

In patent application Serial No. 98,406, filed June 10, 1949, of which this application is a continuation-in-part, there have been described aqueous solutions of alkaline metal salts of adenylic acid having a pH within the range of 5.55 to 7. These solutions contain a mixture of the monomeric disodium salts of adenylic acid, the proportion of each salt depending upon the pH of the solution, but the proportion of monosodium salt generally being the greater. In contrast to aqueous solutions of adenylic acid, which are known to be unstable, these solutions are quite stable, and this stability is attributed to their having a pH above 5.55, at which the acid exists as the salt. These solutions are suitable for intramuscular injection in the treatment of many ailments, particularly in the treatment of puritis.

The so-called adenylic acid system includes a series of rather complicated compounds which are combinations of the base adenine (6-amino purine), the pentose d-ribose, and phosphoric acid, among others. The combination of adenine with ribose linked in glycosidic union at the 9-position of the base constitutes the substance known as adenosine, which has the following formula:

The monophosphoric derivative of adenosine (adenosine-5-monophosphoric acid) is designated herein as adenylic acid. It has the following formula:

It may be prepared from yeast or muscle and for the purpose of describing this invention, the adenylic acid referred to is that of the above formula irrespective of its origin.

2. Adenylic acid is one of three related coenzyme-active substances constituting the adenylic acid system, and the other members are more highly phosphorylated derivatives, namely the di- and triphosphoric acid compounds. For example, adenosine triphosphoric acid (or adenosine pyrophosphoric acid or adenylylpyrophosphoric acid, as it is sometimes termed) has been assigned the following formula:

Some references give other formulas, but the above formula represents the best current information on the structure of the compound.

The adenylic acid system in the body appears to constitute a mobile equilibrium which functions as a carrier for phosphoric acid, and is essential to carbohydrate metabolism. The lower phosphate esters of adenosine act as phosphoric acid acceptors, and the more highly phosphorylated derivatives act as donors of the acid.

It is known that muscle contains adenosine triphosphoric acid. Adenylic acid as such is not contained in animal tissue. The alkaline metal salts of adenosine triphosphoric acid have been proposed for therapeutic purposes (U.S. Patent No. 2,636,881), and adenylic acid as such, both from yeast and muscle sources has been prepared, as well as adenosine triphosphoric acid and the alkaline metal salts of the latter as referred to above.

When aqueous solutions of alkaline metal salts of adenylic acid are administered they are utilized in a slow and steady way, and therefore capable of giving a more sustained effect than is possible with the administration of adenosine triphosphoric acid. A normal dose is 20 mg./hour for five hours, repeated on three successive days, and this has given excellent results in most cases. Not all of the adenylic acid is utilized, but these amounts should be administered to maintain the adenosine triphosphoric acid level over a long enough time to aid the patient. However, in some refractory cases these injections are at too frequent intervals, and the patient's limit of tolerance of injections may quickly be reached and the treatments have to be halted short of completion. It would be desirable in such cases to administer a composition which is capable of providing a more prolonged action of adenylic acid in the body, so that for instance one daily 20 mg,
injection would give as enduring an effect as several 20 mg. injections of the aqueous adenylic acid solution, and the treatment could be continued over a greater number of days to achieve a more enduring effect.

Solid gelatine solutions of therapeutic agents have been employed herefore for administration to humans to prolong the action of the therapeutic agent after administration. Such preparations usually contain a sugar such as dextrose to add body and make the preparation more isotonic. They are solid at body temperature but can be liquefied upon warming above these temperatures. Thus the solution is readily administered as the liquid, and it is assumed that when it cools again in the body, it solidifies, and that in this way the absorption of the adenylic acid is retarded and the therapeutic action of the composition prolonged.

The combinations of adenylic acid and gelatine, the only essential ingredients of the composition, are not critical.

The amount of adenylic acid is sufficient to give a therapeutic effect, and a concentration of 10 mg. per cc. is usually adequate. A saturated solution could be used, but normally not more than 200 mg. per cc. would be present. Dilute solutions, i.e., of 10 to 50 mg. per cc., are preferred. Concentrations for convenience are based on the acid, although this would be present in part at least as the salt.

The amount of gelatine is enough to render the solution solid at temperatures below about 100° F., i.e., normal body temperatures and below. If the composition is intended for injection intramuscularly or subcutaneously, it should be readily liquefiable by warming to temperatures of at least 100° F., and therefore the amount of gelatine should not be so high as to prevent liquefication of the solution at temperatures above 100° F. Preferably, the solution will liquefy at from 100 to 150° F. The composition should not liquefy at so high a temperature that its administration as a liquid will cause pain. From 8 to 20% gelatine is enough to meet these requirements, about 180 mg. per cc. being preferred for a solution containing 20 mg. per cc. of adenylic acid. If the composition is to be administered perorally or sublingually in tablet form its liquefying temperature is unimportant. In the event that the solution obtained after mixing the adenylic acid and gelatine solutions does not have a pH within the required range, an edible water-soluble organic acid or acid salt thereof can be added in an amount to bring the pH to within the range of 6 to 5.5. Satisfactory for this purpose are organic acids selected from the group consisting of polybasic aliphatic acids and hydroxy aliphatic acids, of which citric, lactic, malic, malonic, succinic, glutaronic, adipic, glutaric, glucuronic, succinic, and tartaric acids are exemplary. The acids can be used in the form of their salts if such salts are sufficiently acid. Acidic and acid salts having an ionization constant K\text{H} above than 1 × 10^{-4} are preferred. Only a very small amount of acid usually is required, less than 0.1% being sufficient for adenylic acid solutions containing up to 200 mg. adenylic acid per cc.

In order to impart body to the solution and make it more isotonic, a sugar can be incorporated in the composition. Any edible nontoxic sugar can be employed, and such sugars are well known to those skilled in this art. Dextrose is preferred. Any amount of sugar will increase the body and isotonicity of the composition and the amount is therefore not critical, but enough would be used to give the desired effect. Usually from 5% to 15% sugar is employed. Although a sugar is not essential, the preferred composition of the invention contains a sugar, preferably dextrose.
for imparting optimum properties to the composition.

An antiseptic agent can also be included, usually in an amount not exceeding one percent. Phenol is typical, but those skilled in the art are aware of other antiseptics which can be used in therapeutic compositions and any of these can be employed in the composition of the invention.

The composition can be sterilized under usual and customary conditions as is well known to those skilled in the art.

The following examples are given to illustrate the invention:

**Example I**

Adenylic acid (260 grams) was suspended in 1 liter of water and sufficient sodium hydroxide added to dissolve the adenylic acid while keeping the pH at about 5.5.

Dextrose (184.6 grams) was dissolved in 3 liters of water and this solution added to 2340 grams of gelatine which has previously been wetted with a portion of the dextrose solution. 3 liters of water were added and the mixture warmed until the gelatine had dissolved. The aqueous sodium adenylic acid solution then was blended with the gelatine solution, and sufficient water added to bring the total volume to 12.6 liters.

Citric acid (0.1% based on the 13 liter final volume of the solution) was added to adjust the pH to about 5.2 and the solution brought to a total final volume of 13 liters by the addition of more water. Phenol was added to 0.5% by weight of the final solution. The resulting solution contained 20 mg per cc. of adenylic acid, largely as sodium adenylic acid, and 180 mg per cc. of gelatine. The solution was a solid at temperatures below 100° F., melting at 100° F. to produce a clear liquid which was readily injectable intramuscularly.

In the treatment of pruritis, 1 cc. of this composition when injected intramuscularly daily for three days and 1 cc. every other day for three more days was found capable of increasing the level of adenosine-5-triphosphoric acid in the blood and maintaining this increased level sufficiently to produce a good pattern of response. An aqueous solution of sodium adenylic acid (20 mg per cc.) having a pH of about 7 but not containing gelatine was capable of maintaining an increased level of adenosine triphosphoric acid and producing a similar pattern of response for the same period only if injected in 1 cc. doses every hour for five hours, repeated daily for three days. This shows that the composition of the invention is capable of considerably prolonging the effect of the adenylic acid on the level of adenosine-5-triphosphoric acid in the blood.

**Example II**

A composition was prepared as set forth in Example I, having a pH of about 6.3 before addition of the gelatine solution. In this case, however, the acidity of the composition obtained was such that no addition of citric acid was required, the solution having a pH of 5.2 after mixing.

This solution had properties similar to the solution of Example I.

**Example III**

A solution was prepared as set forth in Example I using gluconic acid instead of citric acid. The solution had properties similar to those of Example I.

The therapeutic compositions of the invention are suitable for administration to humans in cases where the blood analysis indicates an insufficient amount of nucleic phosphorus compounds, particularly adenosine-5-triphosphoric acid. Notable results have been obtained in the treatment of pruritis due to Hodgkin's and other diseases. Complete subsidence or marked amelioration of symptoms was obtained in the majority of cases treated. These findings were obtained in generalized pruritis, pruritis ani, pruritis vulvae, pruritis scroti, idopathic pruritis and contact dermatitis. The composition has also been useful in treating varicose veins, angina pectoris, avitaminosis, arthritis and intermittent claudication.

I have also observed that adenosine-5-monophosphate markedly depresses the serum cholesterol levels in men, as reported in the "Federation Proceedings" (published by the Federation of American Societies for Experimental Biology), volume 11, page 487 (March, 1952).

In the treatment of pruritis, dermatitis and ulceration accompanying varicose veins 1 ampule (1 cc.) 20 mg per cc. of adenylic acid a day can be administered intramuscularly for three successive days. Thereafter injections of 1 cc. every second day can be continued until the response is satisfactory. The exact dosage, of course, varies with the needs of the individual and these amounts can be varied considerably. However, because of the prolonged therapeutic action of the composition of the invention, it is not necessary to repeat dosages at as frequent intervals as in the case of solutions described in the prior application, Serial No. 58,406. It may be noted that the therapeutic effect in the cases of the solutions of the prior application and the solutions of the instant invention is the same. The only difference lies in the prolonged action of the composition of the instant invention.

All percentages in the specification are by weight of the solution.

I claim:

1. A therapeutic composition to provide a prolonged therapeutic action in the body comprising an alkaline salt of adenylic acid dissolved in an aqueous, slowly absorbable menstruum comprising gelatine and having a pH within the range from 5 to 5.5, said menstruum being solid at normal body temperatures.

2. A therapeutic composition in accordance with claim 1 in which the alkaline salt is the sodium salt.

3. A therapeutic composition to provide a prolonged therapeutic action in the body comprising an alkaline salt of adenylic acid dissolved in an aqueous, slowly absorbable menstruum comprising gelatine and containing an organic acid selected from the group consisting of poly-carboxylic saliphatic acids and hydroxy saliphatic acids in an amount to adjust the pH to within the range from 5 to 5.5, said menstruum being solid at normal body temperatures.

4. A therapeutic composition in accordance with claim 3 in which the organic acid is citric acid.

5. A therapeutic composition in accordance with claim 3 in which the organic acid is gluconic acid.

6. A therapeutic composition in accordance with claim 3 in which the organic acid is citric acid.

7. A therapeutic composition to provide a prolonged therapeutic action in the body comprising an alkaline salt of adenylic acid dissolved...
7. In an aqueous, slowly absorbable menstrum comprising gelatine and a sugar and having a pH within the range of 5 to 5.5, said menstrum being solid at normal body temperatures.

8. A therapeutic composition in accordance with claim 7 in which the sugar is dextrose.

9. A therapeutic composition to provide a prolonged therapeutic action in the body comprising a sodium salt of adenylc acid dissolved in an aqueous, slowly absorbable menstrum comprising gelatine and citric acid in an amount to adjust the pH to about 5.2, said menstrum being solid at normal body temperatures.

10. A therapeutic composition to provide a prolonged therapeutic action in the body comprising a mixture of adenylc acid and a mono-alkal salt of adenylc acid dissolved in an aqueous, slowly absorbable menstrum comprising gelatine and having a pH within the range from 5 to 5.5, said menstrum being solid at normal body temperatures.

11. A therapeutic composition in accordance with claim 10 in which the alkal salt is the sodium salt.

12. A process for preparing a therapeutic composition for administration to humans to provide a prolonged therapeutic action in the body which comprises blending an aqueous solution of an alkal salt of adenylc acid having a pH not higher than about 6.5 with an aqueous solution of gelatine and adjusting the pH, if necessary, to within the range from about 5 to 5.5 by addition of an organic acid selected from the group consisting of polyacrylic aliphatic and hydroxy aliphatic acids, the gelatine being present in an amount to produce a composition solid at normal body temperatures.

13. A process in accordance with claim 12 in which the acid is citric acid.

14. A process in accordance with claim 12 in which the acid is gluconic acid.

15. A process in accordance with claim 12 in which the alkal salt is sodium hydroxide.

16. A process for preparing a therapeutic composition to provide a prolonged therapeutic action in the body which comprises dissolving adenylc acid in water with the aid of an alkal salt to adjust the pH of the solution to not higher than about 6.5, blending the said solution with an aqueous solution comprising gelatine and a sugar and adjusting the pH, if necessary, to within the range from about 5 to 5.5 by addition of an organic acid selected from the group consisting of polyacrylic aliphatic and hydroxy aliphatic acids, the gelatine being present in an amount to produce a composition solid at normal body temperatures.

17. A process in accordance with claim 16 in which the sugar is dextrose.

18. A process for preparing a therapeutic composition to provide a prolonged therapeutic action in the body which comprises dissolving adenylc acid in water with the aid of an alkal salt to adjust the pH of the solution to not higher than about 6.5, blending the said solution with an aqueous solution of gelatine and adjusting the pH, if necessary, to within the range from about 5 to 5.5 by addition of an organic acid selected from the group consisting of polyacrylic aliphatic and hydroxy aliphatic acids, the gelatine being present in an amount to produce a composition solid at normal body temperatures.

EDWARD K. HARVILL.
My-B-Den®: Adenosine phosphate in aqueous solution, 20 mg./cc.
Sustained-Action My-B-Den: Adenosine phosphate in gelatin, 20 mg./cc. and 100 mg./cc.
My-B-Den Sublingual Tablets: Adenosine phosphate, 20 mg., tablets.

<table>
<thead>
<tr>
<th>My-B-Den (Aquous)</th>
<th>Sustained-Action My-B-Den</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 mg./cc.</td>
<td>20 mg./cc. 100 mg./cc.</td>
</tr>
<tr>
<td>Adenosine phosphate</td>
<td>(for the action set)</td>
</tr>
<tr>
<td>20 mg.</td>
<td>20 mg. 100 mg.</td>
</tr>
<tr>
<td>Gelatin</td>
<td>180 mg. 180 mg.</td>
</tr>
<tr>
<td>Phenol</td>
<td>5 mg. 5 mg.</td>
</tr>
<tr>
<td>Sodium Citrate</td>
<td>for adjustment of pH</td>
</tr>
<tr>
<td>Sterile</td>
<td>Distilled Water</td>
</tr>
<tr>
<td>1 cc.</td>
<td></td>
</tr>
</tbody>
</table>

CHEMISTRY 1
A molecule of adenosine phosphate (AMP) contains a purine (adenine), a 5 carbon sugar (ribose), and one phosphoric acid radical attached to the fifth carbon of the ribose carbon. AMP has the molecular formula \( C_{10}H_{15}O_{11}N_{5}P_{5} \), with a molecular weight of 347.23. AMP occurs as white crystals with a melting point of 136°-200°C, readily soluble in boiling water.

BIOCHEMISTRY AND PHARMACOLOGY 2
Adenosine phosphate (AMP) is associated intimately with many normal biochemical processes. AMP is essential in phosphorylation reactions serving as energy transfer mechanisms. AMP is involved in certain enzyme reactions and is necessary for carbohydrate and fat metabolism. AMP or substances derived from it are involved in the reactions which store energy as phosphocreatine which is subsequently reconverted to adenosine triphosphate (ATP) for energy needs. AMP is concerned in the energy mechanism whereby contracted muscle becomes contractile again. AMP and its derivatives are necessary in the transfer of high energy phosphate groups needed for oxidative utilization of glucose by all cells. These substances also have a role in peptide and are synthesis, fatty acid oxidation and nerve impulse transmission.

Directly or as a part of ATP, AMP has been identified in many stages of metabolism. With nicotine, AMP forms coenzyme I (diphosphopyridine nucleotide, DPN) needed for the oxidation of lactate acid to pyruvic acid. AMP is essential for coenzyme II (triphosphopyridine nucleotide, TPN) needed for conversion of glucose 6-phosphate to 6-phosphogluconic acid in a number of key reactions. With riboflavin, AMP forms flavin adenine dinucleotide (FAD) — a coenzyme which catalyzes the transfer of hydrogen to other agents, such as the cytochromes — needed for biologic oxidation. With pantothenic acid, AMP forms coenzyme A, an agent involved in the synthesis and breakdown of lipids and in the decarboxylation of pyruvic acid.

The intimate relationship of AMP to ATP can be demonstrated by the elevation of ATP blood levels following the injection of AMP.AMP. Blood normally contains 9 to 11 mg. per cent total adenosine compounds of which an average of 5 mg. per cent is in the form of ATP. It has been shown that within an hour after the injection of 20 mg. My-B-Den Aqueous Solution, 90 per cent of the total blood adenosine compounds may be converted into ATP. With Sustained-Action My-B-Den the highest ATP levels can be demonstrated approximately 24 hours after administration with some elevation of ATP levels above normal demonstrable for 48 hours after injection.

The exact mechanism by which AMP provides certain therapeutic benefits is not understood. The clinical benefit may result possibly from correction of underlying biochemical imbalances or deficiencies at the cellular level. Beneficial therapeutic effects may be due in part to the drug’s vasodilating action and ability to reduce tissue edema and inflammation. However, until more is known concerning cellular biochemistry and its relation to normal and disturbed physiological processes, the rationale for the therapeutic use of My-B-Den must rely essentially upon clinical evidence.

VARICOSE VEIN COMPLICATIONS 3–21
(Varicose Ulcer, Thrombophlebitis, Stasis Dermatitis, etc.)
Edema, pruritus, pain, erythema and swelling associated with stasis dermatitis and varicose ulcers usually respond rapidly to therapy with AMP. Therapy is not only symptomatic benefit obtained but actual healing of the ulcer may occur. Although My-B-Den should not be considered as a substitute for corrective surgery, the drug is a valuable adjunct to surgery in that it may reduce the edema and inflammation prior to surgery without necessity of prolonged presurgical hospital bed rest. Postoperatively, AMP helps to reduce edema and hastens the healing of the ulcer. Where surgery is refused or other conditions are present to deem surgery unwise, AMP has been found to be effective in the medical management of varicose vein complications. Concomitant supportive therapy is recommended according to the needs of the individual case. When infection is present, appropriate antibiotics or sulfonamides should be prescribed. Paste boots or elastic supports facilitate reduction of edema. Physical activity must be adjusted to permit periods rest with elevation of the affected extremity. If obesity is present it should be corrected.

In patients with chronic thrombophlebitis, symptoms of pain, tightness in the calf and discomfort upon standing may be relieved with AMP therapy. As chronic thrombophlebitis progresses, varicosity of the affected vein occurs. If uncorrected, stasis dermatitis appears and eventually ulceration. The late symptoms of chronic thrombophlebitis may, therefore, be considered similar to the complications of varicose veins of non thrombophlebitis origin.

DOSAGE
1 cc. Sustained-Action My-B-Den 100 mg./cc., intramuscularly, daily for three days, then 1 cc. three times weekly. With reduction of edema, inflammation and pruritus, therapy may continue with 1 cc. Sustained-Action My-B-Den 20 mg./cc. As symptoms and signs improve, injections may be reduced to one or two per week, or five My-B-Den 20 mg. Sublingual Tablets may be prescribed for maintenance therapy. 1 tablet sublingually or placed in the buccal pouch 5 to 7 times daily for 4 to 7 days, then 2 to 5 tablets daily as required.

*Adenosine phosphate appears in the literature as “Adenosine-5-monophosphate,” “Adenosine monophosphate,” “AMP,” “AMP,” “adenylosic acid,” “muscle adenylic acid,” “ergodenylic acid” and “T-adenylic acid.”
ADMINISTRATION
Sustained-Action MY-B-DEN should be administered intramuscularly only, preferably intraglutate-
ally. A 20 to 22 gauge needleone to one and one-
half inches in length is recommended.
Sustained-Action MY-B-DEN is a gelatin prepara-
tion which may be completely fluid, semi-solid or
solid according to the temperature. In the solid
state, it gradually becomes fluid when the vial is held
in the hand or immersed in warm water. The
needle and syringe should not be cold, otherwise,
resolidification may occur. After injection, flush
needle and syringe with warm water and replace
stylet in needle.

Patients taking MY-B-DEN Sublingual Tablets 20
mg. should be instructed to place the tablet in the
buccal pouch and await the onset of relief from
adsorbing with saliva, eating or drinking until the
tablet is absorbed.

SIDE EFFECTS
Occasionally slight flushing, dizziness and palpa-
tion may occur momentarily following injection,
particularly with the larger doses of AMP in aque-
sus solution. This probably is due to the vasodilat-
ing effect of the drug when absorbed rapidly.

WARNING: Two reports, one confirmed, indi-
cated an anaphylactoid reaction followed the ad-
ministration of Sustained-Action MY-B-DEN. In
the case where there was no doubt about the rela-
tionship of the drug to a near fatal anaphylactoid re-
action, the patient stated that following the two
previous injections, she felt a tightness in her chest
and difficulty in breathing which lasted only a few
seconds. It is not known whether or not these symp-
toms may be considered progonostic for an-
aphylactoid reactions following subsequent doses of
the drug, but it is recommended that if a patient
complains of dyspnea—and tightness in the chest
following an injection of Sustained-Action MY-B-
DEN, further injections of the drug should not be
made. Although it is unlikely that physicians will
encounter serious reactions to MY-B-DEN, as their
incidence is extremely low, the potentialities of
such should be kept in mind, particularly in pa-
tients with allergy.

BURSITIS AND TENOSYNOVITIS

INTRACTABLE PRURITUS

SOME patients with acute and chronic bursitis and
tenosynovitis have been reported to have respond-
ded most favorably to therapy with AMP. Similarly,
some patients with intractable pruritus have shown
a dramatic response to MY-B-DEN after other therapeu-
tic modalities failed to provide relief.

Although MY-B-DEN use is not considered as ini-
tal or primary therapy for bursitis, tenosynovitis,
and intractable pruritus, it should be considered in
patients failing to respond to other measures.

DOSAGE
MY-B-DEN 20 mg. im. Dose repeated if necessary
but not exceeding 5 cc. (100 mg.) per day. Alter-
natively, Sustained-Action MY-B-DEN may be used
in dosages of 20 mg. to 100 mg., daily or three times
weekly if needed. If maintenance dosages of AMP
are required, MY-B-DEN Sublingual Tablets may
be prescribed, one tablet hourly up to 5 to 7 tablets
daily if needed.

PACKAGE INFORMATION
Sustained-Action MY-B-DEN*: 10 cc. multiple
doses, 20 mg./cc. and 100 mg./cc.
U.S. Patent No. 2,653,897.
MY-B-DEN*, Aqueous Solution 20 mg./cc. in 1 cc.
ampules, boxes of 1.
MY-B-DEN, Sublingual Tablets, 20 mg.: Bottles of
50 tablets.

PRINTED IN U.S.A. 8657XD
861271. JANUARY, 1966

REFERENCES
Chemistry:

Biochemistry and Pharmacology:
2. The biochemical and pharmacological references
on the adenylic acid system are too voluminous to
attempt adequate listing here. The most complete
review of this subject to date appears in the ger-
man literature. ("The Adenylic Acid System — A
Review," Boettge, K., Jaeger, K. H., and Mitten-
sewe, H., Arzneimittel Forschung 7:24-49, 1957.)

Varicose Veins and Chronic
Thrombophlebitis:
3. Boller, R.; Rottino, A., and Pratt, G.H.: Angiol-
ogy 2:260-266 (June), 1952, 4. Bezoume, G.E.: Con-
cours med. 77:175 (April 14), 1956. S. Gugel-Frank,
h: I.'ntr. med. Wschr. 11:1306-1324 (August 17),
Med. 12:167-168 (April 15), 1954. 9. Lawrence,
Lawrence, E.D.; Doktor, D., and Sall, J.; Angio-
logy 2:405-411 (October), 1951. 11. Mattick, D.S.
J. Am. Crurm. Asso. 55:256-258 (December),
Klin. Wschr. 34:701-707 (July 1), 1956. 13. van der
(October), 1953. 16. Pratt, G.H.; Am. J. Surg. 76:696-697
Seguros Soc. 2:145-122 (October), 1958. 18. Rice,
J.; Rev. Podiatrist. J. 11-33 (June), 1954. 19. Rottino,
A; Boller, R., and Pratt, G.H.; Angiology 19:94-
Acad. Sci. 53:633-644 (July 28), 1954. 21. Steinberg,

Bursitis and Tenosynovitis:
42:74-75 (January), 1958. 23. Pelner, L., and Wal-
dman, S.; New York J. Med. 52:1747-1776 (July
95: 1348-1349 (November 12), 1954. 25. Priestnitz, O.: A.-
Aerztl. Praxis 8:3-8, (January 7), 1956. 26. Rottino,
A.; Lancet 1:237-238 (June), 1951. 27. Seijas,
O.O.; Gac. med. Caracas No. 11:269-286 (May 1952.
148:239-241 (January 16), 1954. 29. Vernon, S.: J. Inter-
nist. Coll. Surg. 28:64-68 (July), 1957. 30. Lowry,

Intractable Pruritus:
31. Bezoume, G.E.; Concoures med. 78:1053 (March
1629-1640 (July 1), 1950. 33. Matt, J.G.; South. J.
53:57-54 (June), 1951, 34. Pelner, L., and Wald-
dman, S.; Am. J. Digest. Dis. 15:235-295 (Septem-
ber), 1951. 35. Rottino, A.; J. Lancet 69:285 (Au-
(March), 1958.

*Dome Laboratories
Division Miles Laboratories Inc., West Haven, Conn. 06518 U.S.A.
For the treatment of ein complications, chronic thrombophlebitis, bursitis, tendinitis, tenosynovitis

Bursitis, Tendinitis, Tenosynovitis: In acute and chronic, calcific and noncalcific bursitis, tendinitis and tenosynovitis, rapid and permanent relief of symptoms have occurred with the use of My-B-Den. In acute bursitis, and tendinitis, with adequate therapy, relief may be obtained on the first day of treatment and swelling and residual tenderness eliminated within a week. In chronic bursitis and tendinitis, therapy may have to be continued for a longer period of time. When no improvement is observed in tender points, patients with chronic bursitis that after a few days of therapy, there may be an exacerbation of pain which, as therapy is continued, is followed by a complete disappearance of symptoms.

Dosage: Acute Bursitis, Tendinitis, Tenosynovitis: For the most rapid relief of pain, My-B-Den, Aquous Solution 20 mg/cc., 1 cc. (or for severe cases 100 mg/cc., 0.5 cc. to 1 cc) intramuscularly four or five times daily. Where multiple daily injections are not feasible, Sustained-Action My-B-Den 20 mg/cc., 1 cc. to 2 cc. (or 100 mg/cc., 0.5 cc. to 1 cc) intramuscularly daily. In the acute symptoms have subsided, further treatment may be given with My-B-Den, Sublingual Tablets 20 mg., one tablet five times daily.

Dosage: Chronic Bursitis, Tendinitis, Tenosynovitis: Sustained-Action My-B-Den 20 mg/cc., 1 cc. intramuscularly daily for three days, then 1 cc. once weekly. Usually two or three injections are sufficient. After symptoms diminish, further therapy may be continued with My-B-Den, Sublingual Tablets 20 mg., one tablet five times daily as needed.

IDIOPHATIC PRURITUS, PRURITUS ANI: 29.29

Clinical reports indicate that some patients with pruritus ani have a rapid and dramatic response to therapy with My-B-Den after all other therapies had failed. My-B-Den might be considered for therapy of patients with severe pruritus who do not respond to other medications, but it should be kept in mind that the response of these patients to adenyl acid therapy is unpredictable.

PRODUCT INFORMATION

Administration: Sustained-Action My-B-Den and My-B-Den, Aqueous Solution, should be administered intramuscularly only, preferably intraligamentary. A 20-22 gauge needle one to one and one-half inches in length is recommended. The site of injection My-B-Den, Sublingual Tablets 20 mg., should be instructed to place the tablet in the buccal pouch and refrain from eating or drinking until the tablet is absorbed.

Important: Sustained-Action My-B-Den is a solid gelatin preparation which readily becomes fluid when immersed in warm water. The needle and syringe should not be cold, otherwise, gelification may occur. After injection, flush needle and syringe with warm water and replace styllet in needle.

cc. ampuls, boxes of 5, 20.
My-B-Den, Aqueous Solution 100 mg./cc.: 1 cc. ampuls, boxes of 5 and 50 ampuls.
My-B-Den, Sublingual Tablets 20 mg.: Bottles of 20, 50 and 500 tablets.

References: