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REMARKS

To signalize this, the twentieth volume of the **YEAR BOOK OF DRUG THERAPY** that has appeared since I had the honor of bringing the endeavor into being in 1949, I had thought to prepare a review of developments in drug therapy occurring during these past two decades. Abandoned the idea, however, because reminiscence is such a bore! Instead, I have concentrated on plans to improve succeeding numbers so long as I shall be privileged to edit the **YEAR BOOK**.

The new departure this time is a matter of rearrangement. Instead of presenting the articles in categories such as allergic disorders, bronchopulmonary disorders or cardiovascular disorders, I am offering them in simple alphabetical order according to disease titles, irrespective of the organ systems or the practice specialities into which they would formerly have been grouped. Then each subject and/or article is introduced by an editorial comment which sketches its content and indicates why it was chosen for presentation.

I hope you will like this or let me know if you do not.

H. B.

Abortion

► The author of the following article opens it with the statement that septic shock is now a leading cause of maternal deaths when the death rate from all other causes is declining—a disconcerting truth. The 6.01% incidence of septic shock in the 133 patients with septic abortion in his series was comparable with the 6.7% incidence in the 173 patients of R. S. Newirth and E. A. Friedman (*A. J. Obst. & Gynec.* 85:24, 1963). Both studies were performed in the United States. In Australia, W. R. Jones (*M. J. Australia* 2:195, July 29, 1967) reported a 4% incidence in 100 cases. The present author's practice of treating likely candidates for endotoxic shock so vigorously with antibiotics as to justify the term "septic shock without shock" is commendable.—Ed.

Septic Shock in Abortion is discussed by Charles Rapp Oberst¹ (Louisville, Ky., Gen'l Hosp.) on the basis of analysis of 8 cases of septic shock that occurred among 133 patients with septic abortion seen during 1962-65. The 8 patients, aged 17-37 years and 2-5 months pregnant, were treated chiefly with antibiotics intravenously. The initial dose was 10,000,000-100,000,000

(1) *J. Kentucky M. A.* 65:857-862, September, 1967.

in a liter of 5% glucose in water, with 1-3 Gm. chloramphenicol added. Subsequently, the penicillin dosage was 30,000,000-40,000,000 units of aqueous penicillin in a liter of 5% glucose in water every 8 hours.

Steroids were given as soon as the diagnosis of septic shock was made. Early in the series, 100 mg. hydrocortisone intravenously was given immediately; in later patients, much larger doses were used because it was found that hydrocortisone was not particularly injurious and the mortality of inadequately treated patients was high. The daily steroid dose was decreased by one-third to one-half each day; it was given intravenously in equal amounts every 6 hours. Withdrawal of a steroid was gradual. One patient was on hydrocortisone for 17 days. Near the end of the withdrawal, 4 patients received 20 units of ACTH for 3 days. Usually the patients were kept on a dose of 30,000,000 units of aqueous penicillin every 8 hours until the hydrocortisone dose was under 100 mg. a day.

Of 8 patients, 5 received blood transfusion initially. Five patients received the vasopressor metaraminol when blood pressure could not be sustained by fluids and steroids alone; this should be used to keep blood pressure high enough to perfuse the kidneys adequately. Daily electrolytes were normal in this series, and metabolic acidosis was not seen. Neither laparotomy nor hysterectomy was necessary in these 8 patients. Later, several patients had children without difficulty. One patient had 2 more episodes of septic abortion but without septic shock.

There were no deaths among the patients treated. The author believes that early diagnosis and aggressive treatment give a lower mortality rate in septic shock associated with septic abortion.

Acne

► The following review of the principles in acne therapy is presented primarily for its marshallng of the objections to routine prescribing of the contraceptive pill in adolescent females.—Ed.

Current Treatment of Acne Vulgaris is discussed by J. Lowry Miller² (Columbia Univ.). That estrogens reduce the amount of sebum formation is well known. With this in mind, estrogens were given by mouth in the treatment of acne. To be effective in the male, sufficient amounts of estrogen had to be given to produce feminization; this therapy should never be used in the male. In the female, estrogens alone produced sufficient men-

(2) *Cutis* 4:559-561, May, 1968.

strual difficulties as to preclude their use. The advent of the progestin-estrogen drug combinations, given in cyclic fashion for the purpose of contraception, suggested their use in the female to control acne. Favorable effect on acne is not generally observed until the 2d or even 3d cycle. Judging from the reports in the literature and from personal observation, it seems fair to say that this form of therapy is of definite value for the female. Side effects are breakthrough bleeding, weight gain, breast enlargement and mastalgia. Although oral contraceptive therapy is an effective addition to the treatment of acne in the female, it requires judicious usage and should not be routinely prescribed to all females with acne.

Antibiotics have been used for a sufficient time to establish their value. Many physicians prescribe the sulfonamides because of their lower cost. The author has found the tetracyclines to be superior to the sulfonamides. Tetracyclines are of great value in the papulopustular forms of acne, but should be discontinued when this phase of the disease has cleared. The occasional use of 0.2-0.5 cc. triamcinolone acetonide suspension injected directly into large inflammatory cystic lesions, and perhaps repeated in a week, completes the list of newer methods of treating acne. The time-honored treatments which still produce the most satisfactory results are acne surgery, sunlight or ultraviolet light, lotions containing sulfur, resorcinol or salicylic acid in various combinations and special soaps for cleaning the skin. In the author's experience, diet restriction has often done more harm than good.

Acne is a common disease and can be controlled. The main purpose of treatment is to prevent scarring, which is best accomplished by prevention.

► ↓ This article describes the intralesional use of corticosteroids in treatment of acne abscesses. Seems to work, too, if you have the patience for it and use the right preparation.—Ed.

Enigma of Acne Therapy: The Acne Abscess, also called an acne cyst or nodule, if untreated, may persist for weeks and even months. Systemic use of antibiotics and chemotherapeutic agents has not been uniformly effective. The most effective systemic treatment for these lesions appears to be hormonal. The response of acne abscesses in female patients receiving norethynodrel with mestranol is dramatic; however, such oral contraceptives and estrogens are of limited value as their side effects preclude their use in males.

Lawrence Charles Parish and Joseph A. Witkowski³ (Univ. of Pennsylvania) evaluated objectively the use of intralesional steroids in treatment of acne abscesses. Triamcinolone diacetate and betamethasone acetate-disodium phosphate, injected into the lesion by tuberculin syringe and needle or Dermo-Jet apparatus, were used to treat 106 of 234 abscesses found on 25 patients attending a special acne clinic. Lesions for the study were selected from the back, chest, arms and face. The lesion was identified by tattooing with India ink 1 cm. superior to the summit of the lesion, and its position was mapped on a topographic chart. The size of the lesion was measured with calipers before injection of medication and at weekly intervals for 3-6 weeks and longer. Abscesses, frequently on the same patient, were treated with triamcinolone diacetate, 25 mg./ml., betamethasone acetate-alcohol, 6 mg./ml., their respective vehicles and distilled water for injection (Table 1).

The results of the active medication are shown in Table 2. Of the 106 acne abscesses, 88 became better with treatment by intralesional steroids. For both steroids, injection by Dermo-Jet was not as effective as injection by tuberculin syringe and needle. By this jetting method, triamcinolone provided slightly better results. No appreciable difference in response to treatment was noted over 3-6 weeks and, in some instances, up to 6 months. Almost no lesions reappeared during the study. Slight

TABLE 1.—MATERIALS USED FOR INTRALESIONAL INJECTION

- | | |
|---|-------------|
| 1. Triamcinolone diacetate 25 mg./ml. (Aristocort Intralesional) | |
| Vehicle | |
| polysorbate 80 USP | 0.20% |
| polyethylene glycol 4,000 USP | 3.00% |
| sodium chloride | 0.85% |
| benzyl alcohol | 0.90% |
| water for injection q.s. | 100% |
| hydrochloric acid to approximate pH 6.0 | |
| 2. Betamethasone acetate-disodium phosphate 6 mg./ml. (Celestone Solu-span) | |
| Vehicle | |
| dibasic sodium phosphate | 7.1 mg./ml. |
| monobasic sodium phosphate | 3.4 mg./ml. |
| disodium ethylenediaminetetraacetate | 0.1 mg./ml. |
| benzalkonium chloride | 0.2 mg./ml. |
| 3. Distilled water for injection | |
-

(3) Am. J. M. Sc. 254:769-776, December, 1967.

TABLE 2.—RESULTS AT 7 DAYS OF ACTIVE MEDICATION

Medication	Method	Number of Abscesses	Improved		Unchanged	Worse
			50%	100%		
triamcinolone	injected	32	25%	69%	0%	6%
triamcinolone	jetted	21	33%	39%	28%	0%
betamethasone	injected	32	13%	81%	6%	0%
betamethasone	jetted	21	29%	33%	38%	0%

depression of the overlying skin was seen after treatment of larger lesions, but eventually this became imperceptible.

Actinomycosis

► This is the first report I have seen of the treatment of cervicofacial actinomycosis with ampicillin (Penbritin, Polycillin). The results were gratifying. The consensus heretofore has been that the antibiotics of choice are penicillin, tetracycline and erythromycin, probably in that order—Ed.

Treatment of Cervicofacial Actinomycosis with Ampicillin.

Penicillin is the accepted drug of choice for treating actinomycosis; intensive long-term therapy is needed. E. Schrae La-Plante, Ernest W. Chick and David S. Bauman⁴ (West Virginia Univ.) could find no record of a patient treated with a synthetic penicillin. They determined the effect of ampicillin on the disease in 1 patient. In vitro sensitivity of actinomyces to ampicillin has been demonstrated. The patient given ampicillin can be treated as an outpatient with only periodic visits to the clinic.

Man, 43, observed a swelling in the posterior midline of the neck 4 months previously. Two weeks later a tender mass had appeared in the neck at the angle of the right mandibular ramus. Oral hygiene was extremely poor, with multiple caries and gingival disease. A soft-tissue swelling was noted in the right posterior oropharynx, a hard mass in the right cervical area and a tender, fluctuant nodule at the lower border of the latter mass. Metastatic malignancy was excluded. The fluctuant nodule was drained, and open biopsy showed acute and chronic inflammation. Questioning revealed that a "barley tuft" had been embedded in the buccal mucosa shortly before onset of the neck swelling. *Actinomyces israeli* was eventually cultured from the drainage. Ampicillin was given in a dose of 1 Gm. 4 times daily, and the patient was discharged 3 days later. All drainage had stopped 2 weeks after discharge. A vesicular skin rash was treated with antihistamines and cleared, but the dose of ampicillin was reduced to 2 Gm. daily. Follow-up showed complete resolution of the right cervical mass. Ampicillin was stopped after about 9 months, with no recurrence to date.

(4) Cutis 3:739-743, July, 1967.

This case illustrates the difficulty that may be found in confirming the diagnostic impression of actinomycosis. The dose used in this patient was chosen empirically. The response to ampicillin was gratifying, and it would be of interest to determine whether a lower dose or shorter period of therapy would give equal results.

Acute Upper Respiratory Infection

► The importance of this study lies in the value of its negative findings. The principal goal, which was to prevent the development of atypical pneumonia by prophylactic use of an antibiotic in febrile upper respiratory disease, failed. There was some modification of the course of the pneumonias that developed, but this surely cannot be considered justification for the blanket use of antibiotics in all upper respiratory infections.—Ed.

Chemoprophylaxis. J. C. Maisel, W. E. Pierce and W. T. Stille⁵ evaluated use of an antimicrobial agent in prophylaxis and treatment of atypical pneumonia among recruits at the Great Lakes Naval Training Station in 1961 at the peak of an unusually severe epidemic. Patients with acute upper respiratory infection were first treated symptomatically in the dispensary for 3 days. In the past, about one fifth of these required hospitalization, and one half to three fourths of those hospitalized subsequently would be shown to have pneumonia.

In October, 1961, 1,237 patients with acute respiratory illness were admitted to dispensaries within 14 days. Of these, 618 were given demethylchlortetracycline and 619 placebo on a randomly alternated basis.

Prevention of development of pneumonia in febrile respiratory disease was not achieved to any significant extent. There are no data to explain this failure. It may have been partly due to inability to individualize the patient's therapy to fit the drug susceptibility of his flora. Also, perhaps the treatment used will not eradicate established primary infections of 3 days' duration; cases are on record of persistence of mycoplasma after early and adequate tetracycline therapy. Finally, by more intensive diagnostic measures, it may have been demonstrated that upper respiratory tract illness often has a component of lower airway inflammation and that this does not constitute primary atypical pneumonia. It is not expected that bronchitis of adenoviral infection will respond to antimicrobial drugs.

However, among the 275 patients who did acquire pneumonia, those who had been given the antimicrobial agent had a

(5) Am. Rev. Resp. Dis. 97:366-375, March, 1968.

distinctly shorter course than those who initially had been given the placebo. Significant reduction of relapses and a suggested reduction of "bronchiectasis" were demonstrated among the pneumonia patients treated with the antimicrobial agent early in the course of their respiratory disease.

Addiction

► I wonder what the magnitude of the psychedelic ("mind-manifesting") addiction problem really is in our American colleges. Students on some of the large campuses here in Milwaukee and surrounding cities say that almost any kind of drug can be obtained easily and that the high frequency of addiction is well known in the dormitories. But I also have heard somewhere the very valid comment on this assertion that undergraduate statements on almost any subject run to hyperbole. As for the statements issued by university authorities—well, it is not unfair, it seems to me, to consider them suspect in the very nature of things. That some experimenting with drugs is going on is undeniable, but to ferret out the true extent will be difficult.

The following case report provides an extreme example of permanent brain damage from chronic toluene inhalation on an addictive basis, thus providing a horrible example of the potential results of glue sniffing. As a preamble I present here a condensation of J. Robertson Unwin's sketch of "solvent inhalation" in his fine article (*Canad. M. A. J.* 98:402, 1968) on illicit drug use among Canadian youth: The materials involved are glues or cements containing toluene and/or acetone—fingernail polish remover, lighter fluid, cleaning fluid, gasoline, glue, lacquer thinners, ether—and are sniffed or sucked from a handkerchief or plastic bag. They are easily detected by the odor or remnants of dried glue, etc. The quick effect includes hallucinations, euphoria, slurred speech, dizziness, floating sensation, confusion and impulsive actions. The effect lasts 45-60 minutes, followed by drowsiness for a like period. With higher dosage, stupor, convulsions and coma occur. These agents definitely produce tolerance and psychologic, but not physical, dependence.—Ed.

Permanent Encephalopathy from Toluene Inhalation. Inhalation of glue vapors to induce euphoria has recently become popular among teenagers. The desired effects are probably produced by toluene, the major component of the vapors. Irreversible brain damage after chronic exposure to toluene vapors has not been conclusively proved. In 1961 Grabski reported the first case in which long-term toluene inhalation had apparently led to cerebellar degeneration. J. William Knox and James R. Nelson⁶ (Univ. of California, Los Angeles) studied the same patient 8 years later, and describe the permanent central nervous system damage from chronic inhalation of large amounts of toluene for 14 years.

Man, 33, had first been exposed to toluene while working in an aircraft plant. Inhalation of glue vapor had an effect similar to that of pure toluene. The patient bought toluene from a paint store and

(6) *New England J. Med.* 275:1494-1496, Dec. 29, 1966.

used 1 gallon every 4-6 weeks. Several breaths of vapor were taken orally from a soaked rag until lightheadedness and reddening of vision occurred. Unconsciousness occurred less than 4 times in 14 years of inhalation. The patient carried a vial of toluene for inhalation in public. Progressive tremulousness and unsteadiness began 2 years after the start of the habit, with deterioration of handwriting, chronic anorexia and mild weight loss. He was admitted to institutions several times because of bizarre and inappropriate behavior; neurologic examination disclosed evidence of cerebellar disease, and chronic undifferentiated schizophrenia was diagnosed. The most recent admission was for moderately severe acute hepatic toxicity after substitution of carbon tetrachloride for toluene. Progressive oliguria developed and the patient became semicomatose. One month after improvement a Wechsler test showed erratic performance in the upper average range. The psychologist did not diagnose organic mental deterioration. There was a positive snout reflex, a probable suck reflex and an exaggerated jaw jerk. Nystagmus on lateral gaze was noted. The patient's gait was slightly unsteady, and hand tremor increased during movement. The tendon reflexes were brisk and symmetrical with unsustained ankle clonus. The plantar response was extensor on the right. An EEG registered excessive irregular theta activity, particularly over the left hemisphere. Pneumoencephalography showed marked symmetrical dilatation of all ventricles except the 4th, and widening of the cortical sulci especially in the frontal region.

The signs in this patient are more consistent with corticobulbar and corticospinal system damage than with cerebellar degeneration. It is unlikely that the abnormalities are secondary to liver damage. This is the first report of permanent encephalopathy in man from toluene, but cortical and cerebellar degeneration has been reported in dogs after intravenous administration for 4-6 weeks. Greater study should be made of the extent of chronic toluene habituation in adults.

► ↓ The following article is introduced to alert you to the use of belladonna alkaloids to provide a "trip." I have seen 2 similar reports, by J. A. Tramontana and A. H. Der Marderosian (Pennsylvania M. J. 70:58, 1967) and by E. S. Dean (J.A.M.A. 185:882, Sept. 14, 1963). In the latter, involving 3 young men who deliberately self-induced intoxication with a proprietary antiasthmatic preparation, diagnosis was aided by the evidence of atropinism (dilatation of the pupil when a drop of the patient's urine is placed in a cat's eye).—Ed.

Unpublicized Hallucinogens: Dangerous Belladonna Alkaloids. David J. Muller⁷ (John Peter Smith Hosp., Fort Worth, Texas) describes 3 patients in whom the hallucinogenic effect of belladonna alkaloids was demonstrated and who were seen within a 3-day period on an acute psychiatric service in a county general hospital.

Man, 27, was brought to the hospital by police after he made

(7) J.A.M.A. 202:650-651, Nov. 13, 1967.

feeble attempts to attack 2 women; he was found on a fire escape trying to climb through an apartment window fan. When first seen at the hospital he mumbled incoherently, could not light a cigarette, was unaware of the month and year and could not multiply 3×3 although he had a 9th grade education. He later wandered around the ward in a confused manner and puffed at nonexistent cigarettes. No history suggesting a basis for this behavior could be obtained until a friend reported that the patient had been eating a green powder (a mixture of stramonium and belladonna extract [Asthmador]) to get "high." This powder is to be ignited and the fumes inhaled to relieve asthmatic attacks. The patient admitted taking one-half teaspoonful of the green powder orally before hospitalization. Within 24 hours the patient was fully alert and rational and was discharged.

Atropine, homatropine, scopolamine and hyoscyamine can cause delirium when taken orally, instilled in the eye or injected subcutaneously in relatively small doses. To confirm the diagnosis of belladonna intoxication, 10-30 mg. of methacholine ester may be injected subcutaneously; it is pathognomonic if no flushing, sweating, lacrimation, rhinorrhea, salivation or enhanced peristalsis occur. Physicians should consider this diagnosis, especially in the young adult with an acute brain syndrome.

► Evidence regarding the frightening consequences of LSD use is pouring in, but we do not yet have the complete picture. I have chosen the following article because it presents an aspect of the subject not stressed heretofore, namely, the burgeoning addiction to the compound among young people in the lower socioeconomic group. The earlier impression, substantiated to a considerable extent by the review of R. G. Smart and K. Bateman (Canad. M. A. J. 97:1214, 1967), has been that the principal users of LSD have been students, former students and college graduates. Smart and Bateman's article unfortunately does not lend itself well to abstracting here, but you should read it if possible. Adding to our woes, H. Zellweger and associates (Lancet 2:1066, 1967) have reported a case strongly indicative of the teratogenic action of this poison.—Ed.

Complications Following Ingestion of LSD in a Lower Class Population were studied by Walter Tietz⁸ in 49 patients admitted to the Psychiatric Inpatient Service of Los Angeles County General Hospital during April-June, 1966. Most patients were under age 25; by Hollingshead and Redlich's criteria (1958), 80% were in the lower socioeconomic class. The patients' educational background is shown in Table 1. Although the *D*-lysergic acid diethylamide (LSD) used was not necessarily pure, reported dosage was 100-2,000 μ g. Onset of symptoms varied from the day of ingestion to 3 months after the last LSD dose. Most patients also took other drugs, including amphetamines, marijuana and heroin; however, it was difficult to docu-

(8) California Med. 107:396-398, November, 1967.

TABLE 1.—EDUCATIONAL BACKGROUND OF PATIENTS

NO. OF YEARS IN SCHOOL	NO. OF PATIENTS	% OF TOTAL GROUP
Less than 12	16	32
12	15	30
12-16	17	34
More than 16	34	6

ment cumulative effect as these drugs were not consistently taken with LSD. After the patient's initial panic reaction subsided, psychologic testing was carried out with the Bender-Gestalt test and the Minnesota Multiphasic Personality Inventory (MMPI).

Results on the Bender-Gestalt test were within normal limits for most study patients, whereas the same test given to a control group of young schizophrenics gave abnormal results in 50% of the cases. The MMPI test results for the study patients showed a pattern similar to that seen in young schizophrenics. Classification of the 49 patients by the method of Frosch and coworkers (1965) is shown in Table 2. Acute panic reactions lasted a few days in all patients; if a patient seemed to recover completely after this, he was considered to have had only an acute panic reaction. In some patients, the LSD experience, including visual illusions and hallucinations, recurred; Rosenthal (1964) postulated some damage in the neuro-optic tracts as the cause of this phenomenon. In some patients, symptoms extending beyond the acute panic reaction became almost indistinguishable from manifestations of acute schizophrenia; most of these patients, after about 10 days, were committed to a state hospital for further care. Extended psychosis developed in about two thirds of the patients in the study.

Seventeen patients were interviewed 1-5 months after discharge from the hospital. Most were functioning marginally in the community, but the degree of socialization was minimal.

TABLE 2.—TYPES OF COMPLICATIONS RESULTING FROM USE OF LSD*

	NO. OF PATIENTS	% OF TOTAL GROUP
Acute panic reactions	15	30
Reappearance of symptoms	6	12
Extended psychosis	28	57

*According to classification of Frosch and co-workers.

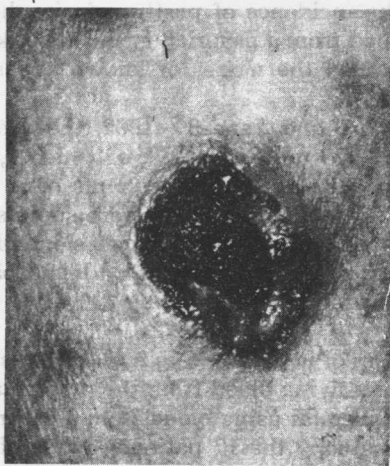
Very few had used LSD since discharge from the hospital, but many continued to use other drugs. Most were now afraid to use LSD.

► ↓The next article introduces the interesting question of whether the fluctuating prices of adulterating ingredients in the heroin "bag" will present us with a new crop of momentarily puzzling entities. Despite the fact that the conditions under which heroin is injected lend themselves to infection, and that localized abscesses are not uncommonly seen at injection sites, Minkin and Cohen's patients presented lesions that did not appear to be infectious in origin. The matter is perhaps of more academic than practical importance, but the observation of any new type of lesion is always interesting and at least potentially important.—Ed.

Dermatologic Complications of Heroin Addiction: Report of a New Complication, ulcerating nodules, occurring within several hours of subcutaneous heroin injection in 3 long-term users without prior lesions from subcutaneous administration, is made by Wilfred Minkin and Harvey J. Cohen⁹ (New York Univ.).

Woman, 40, had been "mainlining" heroin for 13 years; 1 month before hospitalization she began to inject the packaged material subcutaneously because of lack of suitable veins. Shortly thereafter ulcerating nodular lesions appeared within several hours at injection sites. The patient denied using communal equipment. Erythematous, warm, tender, ulcerating nodules (2-4 cm. in diameter) were present over the thighs (Fig. 1), pretibial areas and dorsa of the feet. The white blood cell count was 14,900, with 79% neutrophils. Culture of one lesion grew *Staphylococcus aureus* that was coagulase positive

Fig. 1.—Ulcerating nodule of thigh after subcutaneous heroin injection. (Courtesy of Minkin, W. and Cohen, H. J.: *New England J. Med.* 277:473-475, Aug. 31, 1967.)



(9) *New England J. Med.* 277:473-475, Aug. 31, 1967.

and sensitive in vitro to dicloxacillin. Lesions healed on treatment with dicloxacillin, saline compresses and bacitracin ointment.

The authors believed that these ulcerating lesions were due to tissue reaction to the injected materials and that nonavailability of the narcotic during hospitalization was instrumental in healing and in preventing new lesions. Heroin does not reach the user in pure form, but passes through several intermediate steps during which it is cut by excipients that dilute and adulterate. Excipients resemble the pure powder physically and in their solubilizing properties; most commonly used have been mannitol, dextrose and quinine. Reportedly, the price of commercially available quinine rose in the past year, resulting in the use of other substances. It is reasonable to speculate that a new substance used may have had a previously unreported effect on the skin.

► † Here is evidence of the great risk of transfusion hepatitis when narcotic addicts are allowed to contribute their blood (for a price) to a proprietary blood bank. In reporting an epidemic of hepatitis among addicts in London, T. H. Bewley *et al.* (Brit. M. J. 1:730, 1968) remark that most of the cases were mild. Mildness was observed also in the 68 consecutive cases seen by M. R. Schoenfeld *et al.* (J. New Drugs 4:79, 1964) in New York, who were inclined to attribute it to the immunity conferred by frequent exposure to the virus through repetitive use of the needle, although they did not overlook the possibility of a difference in both virus type and the size of the inoculum between needle- and orally acquired cases.—Ed.

Transfusion Hepatitis Arising from Addict Blood Donors.

Stephen N. Cohen and William J. Dougherty¹ (New Jersey State Dept. of Health, Trenton) carried out a controlled study to determine the incidence of posttransfusion hepatitis among recipients of blood from a proprietary blood bank whose records of donors contained the names of known and suspected drug addicts.

Between April 1 and June 30, 1962, the proprietary blood bank collected 1,815 units of blood, of which 1,678 units were distributed to hospitals. Of 765 recipients of at least 1 unit of this blood who were identified, 743 were successfully followed, revealing 611 alive 6 months after transfusion. Of 392 recipients of at least 1 unit of blood from control blood banks who were identified, 379 were traced, revealing 341 alive 6 months after transfusion.

Seventeen cases of hepatitis were found, 16 distributed among eight hospitals receiving blood from the proprietary blood bank and 1 case at a hospital using blood from a control bank. There were no deaths among the 17 patients. None of these patients

(1) J.A.M.A. 203:427-429, Feb. 5, 1968.