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Dr. G. O. Nelson, M.D.
Medical Officer for Monsanto Chemical Co.
Nitro, W. Va.

Dear Dr. Nelson:

The following is the report of my visit to your plant May 8, 1949.

On March 8, 1949, an autoclave in building 41 blew a safety valve and the contents exhausted through a roof vent, but much of it also spattered into the building because the exhaust pipe was bent downward by the extreme heat of the reaction. The workers alarmed by the blowing of the safety valve had fled from the building so no one was immediately injured.

The autoclave contained tetrachlorobenzol, caustic soda and methanol, which under heat and pressure is converted into the sodium salt of trichlorophenol.

A few minutes after the accident, the workers returned to the building, the floors, walls and machinery of which were found to be covered by a white powder. The ground outside the building was covered with a similar deposit.

There was no effect noted on the men until several days afterwards when the exposed parts began to itch and burn, and small acne like lesions began to appear on the exposed skin.

A child of one of the workers also became affected, because the worker with contaminated clothes fondled the child.

The following workers were presented for examination.

1. James F. Roe, Area Supervisor, Entered the building immediately after the accident. Rash appeared on face about eight days after. Now has mild degree of melanosis and a few small cysts on the left cheek.

Prognosis: good.

Treatment suggested: Scrub face with Tersus or 5% solution of Santome immediately before retiring at night. Follow this by the application to the face of Lotic alba to which 3% Resorcinol has been added. Wash face in the morning upon arising with Tersus or Santomorse.

Each day a few of the cysts should be emptied of their contents by expression. Comedone forceps may be used for this purpose and the cysts may be superficially incised to permit the contents to be more easily expressed. The patient should avoid exposure to strong sun light.

2.
B. Brad Landers. Entered the building immediately after the accident. He felt no immediate effect, but the next day he had a headache, elevation of temperature, generalized erythema and vomiting.

Now shows a marked tan color melanosis of face and many small acne like cysts. The legs and thighs are also affected.

Treatment advised: Same as for previous case. In addition, liver function tests should be done.

3. Jonathan Furley: Entered building the day of accident. Eight days later he noticed an eruption on his face accompanied by marked edema. The hands also became affected.

Now presents a mild erythema of face with edema around the eyes. There are only a few cysts on the face and there is no melanosis.

Treatment as described above.

4. Carl Haning. Entered the building the evening of the accident and remained for two hours. On March 30, the eruption appeared on the face. Now presents a few acne like cysts on the face and on the ears. There is only a slight melanosis. Treatment as above.

5. Cecil Cunningham. Entered building immediately after the accident. Rash on face appeared eight days later.

Now presents a few acne like cysts on legs near the ankles and on thighs near the knees. The face is practically clear. Slight melanosis.

Treatment: Is practically well.

6. John R. McClain. Entered building on the day of the accident. Four days later he noticed an eruption on his face, but did not report for medical aid until four days later. Now presents only a slight melanosis.

Treatment: Is practically well.

7. Ival McClanahan. Entered building one hour after accident. Felt no immediate effects, but had a headache the next day and six days later the face became swollen and an eruption appeared.

Now presents a marked melanosis, and many small cysts on face giving the appearance and feel of ground glass. Has numerous straw colored acne like cysts on the upper eye-lids. Also shows the scars of old acne vulgaris.

Treatment: Same as case 1.

8. W. H. Martin. Entered building one hour after accident. Rash appeared on the face seven days later. The legs were also affected.
Now presents moderate melanosis of face and legs and a few acne like cysts at the hair line.
Treatment: Is practically well.
9. John Hein. Entered building the day of accident. Rash appeared on face nine days later.
Now presents marked melanosis and numerous tiny cysts on cheeks, giving the face the appearance and feel of ground glass.
Treatment: As outlined in case 1.
10. R. L. Shank. Building Foreman. Entered building immediately after accident. Rash appeared 3 - 4 days after. Has been in building every day since. Has slight melanosis of face. Acne like lesions on buttock and sides.
Treatment: Is practically well.
11. Ralph Martin. Pipefitter went into the building the day after the accident and handled contaminated apparatus. Three days later the face became edematous, and a rash appeared on the face and thighs.
Now shows melanosis of face and scattered acne like cysts. The anterior surface of the thighs is erythematous and desquamating.
Treatment: As outlined for case 1.
12. Harold Young. Entered building the day after the accident. Rash appeared on face six days later and face became swollen. Melanosis appeared several days later after X-ray treatment was begun.
Now presents extreme degree of melanosis and many acne like cysts on the face. The hands and arms to just above the wrists are also melanotic. The unexposed portions of the body are normal white.
Treatment: As outlined for case 1.
13. Harry Bonaker. Entered building the day after the accident. Noticed breaking out on face one week later.
Now presents only a slight melanosis.
Treatment: Is practically well.
14. Woodrow Brown. Entered building the day after accident. Rash on face appeared a week later.
Now presents melanosis and numerous acne like cysts and pustules on the face.
Treatment: As outlined for case 1.

15. Berry Hudnall. Was working on a broken valve taken from the mainline. Three days later he became sick and vomited blood for two days. A rash appeared on his ears.

Now presents marked melanosis of the face and pea sized acne like cysts on the face. Smaller cysts on the anterior surface of the legs and thighs. Treatment: As for case 1.

16. A. E. Lane. Entered building six days after the accident. Noticed a burning of the face two days later.

Now shows a few acne like cysts and slight melanosis.
Treatment: As for case 1.

17. L. M. Hurley. Entered the building about two weeks after accident. Rash appeared on face two weeks later.

Now shows comedones around external orbital region and acne like lesions on extensor surface of fore arms and knees.
Treatment: As for case 1.

18. Okey W. McClanahan. Entered building one week after accident. Now presents edema under the eyes and a few cysts around the external orbital region. Treatment: As for case 1.

19. James Martin. Pipefitter. Entered building fourteen days after the accident and about 14 days later noticed edema, pruritus and eruption on the face.

Now presents marked melanosis of face and scattered acne like cysts on the face and extensor surface of the lower third of thighs.
Treatment: As outlined for case 1.

20. Eugene Cunningham. Entered building one month after the accident and after working twelve days noticed eruption around the ears.

Now presents mild degree of melanosis, some grouped acne like cysts around chin and mouth. Acne lesions also on anterior lower third of thighs. Treatment: As in case 1.

21. Denver LeMasters. Entered building more than one month after the accident. Three days later noted an irritation on the face. Now presents sharply circumscribed, crusted area on each cheek about two inches in diameter. Extensor surface of forearms show acne like cysts. Slight melanosis. This case has an acute inflammatory reaction on the face, resembling some what an acute lupus erythematosus.

Treatment suggested: Emollient creams such as equal parts of lanolin and cold cream.

22. Russel Tucker. Entered building about one month after the accident. Two days later an eruption appeared on the face.

Now presents slight melanosis only, no cysts.
Treatment: Is practically well.

eruption appeared on the face three days later.

Now presents mild erythema of face but numerous acne like lesions on cheeks and chin. Treatment: As in case 1.

24. David Milan. Entered building one month after the accident and eruption appeared four days later.

Now presents a few acne like lesions on the nose and the forearms. Treatment: As in case 1.

25. Homer Thomas. Entered building about six weeks after the accident. Eruption appeared the next day on the face.

Now presents slight melanosis and small acne like cysts on the forehead. Treatment: As in case 1.

26. Charles McComb. Research Chemist. Has been working with the chlorophenols but has not entered building 41 since the accident.

Has straw colored acne like cysts on face and arms and behind ears. No melanosis or signs of inflammation.

Diagnosis: Chloracne not due to accident.

Treatment: Expression of contents of cysts.

Comments:

Twenty-five cases of chloracne and melanosis were seen. These cases resulted from contact with the chemicals formed as a result of the accident and which contaminated the building and its contents.

Chloracne has often been reported as occurring from contact with chloronaphthalenes, chlorobenziols, chlorophenols, chlorodiphenyls and chlorodiphenyl oxides.

Melanosis and acne results from contact with tar, heavy coal tar distillates, and coal tar pitch. (Occupational Diseases of the Skin, Schwartz, Tilipan, Peck. 2nd edition p.p. 218, 259, 483.)

The combination of melanosis and chloracne has also been reported. (An Outbreak of an Unusual Form of Occupational Dermatitis. Schwartz, L., Arch. Dermat. & Syph. 50:25-26. July 1944.)

The melanosis and chloracne in the present instance probably resulted from the formation of tarry or photosensitizing chemicals resulting from the great heat created by the accident, as well as from the chlorophenols and chlorobenziols normally found in the autoclave.

That the chemicals formed during the accident were not thoroughly cleared out of the building is shown by the fact that workers entering the building a month or more after the accident became affected.

Recommendations:

1. The building and equipment should again be de-contaminated using suitable solvent (Trichlorethylene) and washing this away or neutralizing it with caustic soda. The workers doing this should be protected with impervious clothing, gloves and boots and wear air-hose hoods.
2. The affected patients should be treated (a) by manual expression of the cysts,
(b) by a peeling lotion of Lotio alba plus 3% resorcinol,
(c) by using a synthetic detergent on the affected parts to better remove fats, oils, and waxes from the skin,
(d) by giving an ultra-violet light screening lotion to those who are photosensitive. (Isobutyl paraminobenzoate 10% or Salol 10%). Roentgen therapy is not indicated.

Liver function tests should be performed on those workers who are most severely affected and on those who showed systemic symptoms.

Signed/ Louis Schwartz, M.D.

cc: H. B. Kelly - St. Louis

May 11th, 1949

RECEIVED

August 16, 1949

CONFIDENTIAL

Dr. C. D. Nelson,
Medical Officer for Monsanto Chemical Company,
Nitro, Va.

Dear Dr. Nelson:

Between my first visit to your plant on May 8, 1949, and my second visit on August 5, 1949, there occurred 52 new cases of chloracne. Some of these workers are new employees and others are experienced men, but all of them had worked in Building 11 or had handled equipment that had been in Building 11 at the time of the accident. None of the new cases are as severe as those first seen in May.

In addition two cases of chloracne occurred in a father and his child who had purchased and ridden in a truck which was near Building 11 at the time of the accident and had been contaminated with the chemicals escaping from the reaction kettle.

The development of new cases since my last visit indicates that the Building 11, and its immediate surroundings are still contaminated with the discharges from the kettle at the time of the accident. The indication is strengthened by the fact that workers in the other buildings have not been affected.

While most of the 26 cases seen at my first visit on May 8, 1949, show improvement, especially those who have been transferred to other buildings, some of those who are still working in Building 11 have developed new areas of chloracne. This also indicates that Building 11 is still contaminated.

The following thirty-one employees were presented for examination.

1. Jonathan Hawley. Entered building the day of accident. Eight days later he noticed an eruption on his face accompanied by marked edema. The hands also became affected.

Now presents a mild erythema of face with edema around the eyes. There are only a few cysts on the face and there is no melanosis.

Treatment as described.

On 8/5/49, still shows erythema and edema about the eyes. No melanosis. The body shows many comedones and a few scattered pustules on the anterior surface of the trunk, the back is clear. In addition, there are a few broken pustules on the anterior or posterior surfaces of the thighs.

This patient complains of muscle pains in the legs that are much more severe at night.

2. James F. Rowe. Area supervisor. Entered the building immediately after the accident. Rash appeared on face about 8 days after. No big ill degree of melanosis and a few small cysts on the left cheek.

Prognosis good.

Treatment suggested: Scrub face with Tarsus or 5% solution of Santomeres immediately before retiring at night. Follow this by the application to the face of Lotio Alba to which 5% Resorcinol has been added. Wash face in the morning upon arising with Tarsus or Santomeres.

Each day a few of the cysts should be emptied of their contents by expression. Comedone forceps may be used for this purpose and the cysts may be superficially incised to permit the contents to be more easily expressed. The patient should avoid exposure to strong sunlight.

On 8/5/49 still has mild chlorasma of face. There are only a very few lesions now. There is a mild degree of melanosis about the eyes. No apparent change in patient's condition.

3. Mr. L. E. Hurley. Entered the building about 2 weeks after accident. Has appeared on face 2 weeks later.

Now shows comedones around external orbital region and acne-like lesions on extensor surface of forearms and knees.

Treatment: as for case 2.

On 8/5/49 still has many comedones and lesions. The back of the neck and scullum now show many lesions as well as the forearms and knees. This worker continued working in the building after the explosion. Mr. Hurley also complains of severe pain in the legs. This man is now out of Building 41.

4. Ival McLambien. Entered building 1 hour after accident. Felt no immediate effects but had a headache the next day and 6 days later the face became swollen and an eruption appeared.

Now presents a marked melanosis, and many small cysts on face giving the appearance and feel of ground glass. Has numerous straw colored acne-like cysts on the upper eyelids. Also shows the scars of old knee eczema.

Treatment: same as case 2.

On 8/5/49 still shows marked involvement posterior surface of neck and behind the ear. In addition now presents pustular lesions on trunk and buttocks. Melanosis extending (color lighter). At present off work in this building.

5. Woodrow Brown. Entered building the day after accident. Rash on face appeared week later. Now presents melanosis and numerous acne-like cysts and pustules on the face.

Treatment: as outlined for case 2.

On 8/5/49 shows marked improvement. However, posterior aspect of neck appears worse. This man has been off work for the past 4 weeks.

6. Barry Buchall. Was working on a broken valve taken from the building. Three days later he became sick and vomited blood for 2 days. A rash appeared on his arms.

Now presents marked melanosis of the face and parietal acne-like cysts on the face. Smaller cysts on the anterior surface of the legs and thighs.

Treatment: as for case 2.

8/5/49 color still dark. Face is markedly improved; posterior aspect of neck, however, is worse. Lesions on legs have also improved. Patient complains of pain in legs and 1 of myeloma. On examination outer surface of eyebrows appears thinner.

7. Brady Landers. Entered the building immediately after the accident. He felt no immediate effect, but the next day he had the headache, elevation of temperature, generalized erythema and vomiting.

Now shows a marked tar color melanosis of face and many small acne-like cysts. The legs and thighs are also affected.

Treatment advised: same as for previous case. In addition liver function tests should be done.

8/5/49. Very much better, melanosis nearly gone. Still presents acne-like lesions on arms and legs. Back of neck clear. This patient also complains of pain in the legs at times.

8. Harold Young. Entered building the day after the accident. Rash appeared on face 6 days later and face became swollen. Melanosis appeared several days later after X-ray treatment was begun.

Now presents extreme degree of melanosis and many acne-like cysts on the face. The hands and arms to just above the wrists are also melanotic. The unexposed portions of the body are normal white.

Treatment: as outlined for case 2.

8/5/49. Still melanotic but less so than when first seen. Face is much smoother now. Posterior surface of neck not affected; the arms, however, show few comedone-like scattered lesions. This patient also complains of pains in leg muscles.

9. Ralph Martin. Pipe-fitter went into the building the day after the accident and handled contaminated apparatus. Three days later the face became edematous and a rash appeared on the face and thighs.

Now shows melanosis of face and scattered acne-like cysts. The anterior surface of the thighs is erythematous and desquamating.

Treatment: as outlined for case 2.

8/5/49. Face markedly improved but back, thighs, buttocks, and penis show many lesions now. Numerous comedones on legs, practically every follicle shows lesions.

Patient stated wife shows smaller lesions. Advised to bring his wife in to see Dr. Nelson.

10. John Reid. Entered building the day of accident. Rash appeared on face 9 days later. Now presents marked melanosis and numerous tiny cysts in cheeks, giving the face the appearance and feel of ground glass.

Treatment: as outlined in case 2.

8/5/49. Much better than when first seen. Melanosis has also improved. Now has many large pustular lesions on cheeks and under chin (secondary infection).

11. James Karkhan. Pipe-fitter. Entered building 11 days after the accident and about 11 days later noticed edema, purpura and eruption on the face.

Now presents marked melanosis of face and scattered acne-like cysts on the face and anterior surface of the lower third of thighs.

Treatment as outlined for case 2.

8/5/49. Condition much improved. Melanosis subsiding. Lesions on face and thighs show improvement. Now has some lesions on back of neck. This patient also complains of joint and muscle pains. All joints suggested are sites of pain.

12. A. H. Luna. Entered building 6 days after the accident. Noticed a burning of the face 2 days later.

Now shows a few acne-like cysts and slight melanosis.

Treatment: as for case 2.

8/5/49. Melanosis much improved. Shows many blackheads on forehead. Lesions on face much more numerous. Also complains of pain, which affects neck and arms, no leg pains.

13. Russell Tucker. Entered building about 1 month after the accident. Two days later eruption appeared on the face.

Now presents slight melanosis only, no cysts.

Treatment: is practically well.

8/5/49. Shows marked improvement. Skin almost entirely clear, presents few lesions left solar region. Complains of pain in left hip and leg. This man has been working in Building A1 all the time.

14. Eugene Cunningham. Entered building one month after the accident and after working 12 days noticed eruption around the ears.

Now presents mild degree of melanosis, some grouped acne-like cysts around chin and mouth. Some lesions also on anterior lower third of thighs.

Treatment: as in case 2.

8/4/49. Melanosis improved. Now presents minor lower jaw cystic lesions with secondary pyogenic infection; in addition, presents a few lesions on the back of the neck.

15. Gene Thomas. Entered building about one month after the accident and eruption appeared on the face 3 days later.

Now presents mild erythema of face but numerous acne-like lesions on the cheeks and chin.

Treatment as in case 2.

8/5/49. Has more lesions on face, chin, and forehead than were present when first seen. In addition, presents lesions on back of neck now. Has mild folliculitis of legs (has this was also complaining of joint pains; these not present now).

Recommendations: Remove worker from Building A1.

16. David Miller. Entered building one month after the accident and eruption appeared 4 days later.

Now presents a few acne-like lesions on the nose and the forehead.

Treatment: as in case 2.

8/5/49. Now has very large acne-like lesions over broadened area of face, chin and neck and back of neck. Lesions on forehead better.

Recommendations: If gets worse remove from Building A1.

17. Cecil Cunningham. Entered building immediately after the accident. Rash on face appeared 8 days later.

Now presents a few acne-like cysts on legs near the ankles and on thighs near the knees. The face is practically clear. Slight melanosis.

Treatment: is practically well.

8/5/49. Melanosis improved. Has continued to work in Building A1 since explosion. Has few more lesions (cysts) on face; posterior aspect of neck shows a marked pyogenic reaction. Lesions after ankles and thighs improving.

18. Carl Ewing. Entered building the evening of the accident and remained for 2 hours. On March 30, the eruption appeared on the face. Now presents a few acne-like cysts on the face and on the arms. There is only a slight melanosis. Treatment as above.

8/5/49. Melanosis subsided. Face lesions no worse, however, does present some lesions on the back of the neck. In addition, presents many follicular lesions over the trunk especially about the umbilicus and over the buttocks. This man also has continued to work in Building 41 all the time.

19. P. L. Shank. Building Foreman. Entered building immediately after accident. Eash appeared 3-4 days later. Has been in building every day since. Has slight melanosis of face. Acne-like lesions on buttocks and sides.

Treatment: is practically null.

8/5/49. Still shows slight melanosis on face. Lesions on face more numerous and presents many large cysts and pustules on the back of the neck. Patient has scattered lesions over the trunk. This worker has continued working in Building 41 all the time. Mr. Shank all complaints of severe pain in the legs.

Patients examined for first time 8/5/49.

20. James L. Sheets, age 6. Eruption began in March 1949, a few days after playing in a truck purchased by his father from the Monsanto Chemical Company. The truck was contaminated at the time of the accident. Both the boy and his father developed severe chloracne from contacting the truck.

This patient presents the typical roadhouse acne syndrome on both cheeks, bridge of nose, forehead, chin, neck and about the axilla. In under the appropriate treatment as advised for the other patients at the time of the first visit.

21. J. C. Steele. Maintenance man. This worker entered the building for the first time several months after the accident. At present complains of an eruption on his face of 3 weeks duration. This eruption began 1 week after entering the building.

Presents a few impetiginous lesions on the chin, while over the nose, behind ears, on back of neck there are present a few straw colored cysts typical of chloracne. In addition, the arms and buttocks present a mild folliculitis. This patient also complains of pains in legs and back. Suggest 3% uniodinated mercury ointment for impetiginous lesions of the chin in addition to treatment as previously outlined for the chloracne.

22. Roy Shank. Maintenance man. Entered Building 41 first time since accident about 6 weeks ago. Has been working steadily in Building 41 since.

Presents slight melanosis and acne lesions on upper lip. In addition, there are a few lesions present on the chin, over the bridge of the nose, in the eyebrows and scattered lesions over the arms and legs. This worker also complains of pains in the legs.

23. Elco Smith. Does not come in contact with Building 41. Works in Building 44 where he is exposed to chlorophenol in the finishing process.

Presents a few lesions on his face, back of neck at the hair line and over the trunk and hips. Mild chloracne. This man also complains of muscle pains (neck).

24. Howard Toney. Maintenance man. Presents a few scattered erythematous-follicular and pustular lesions over the trunk, especially abdomen. Some of the lesions resemble cysts. There are in addition scattered lesions over the buttocks and about the axillary folds.

Impressions: mild chloracne. It is felt that heat also is a factor in this case.

25. Frank Best. Maintenance man. Work in building 41 for the first time 5 weeks ago. Presents a few lesions on the face which resemble a folliculitis. No typical lesions of chloracne. Also presents a few follicular, pustular lesions over the upper thighs and buttocks. Doubtful case.

26. John Blackwell. Worked in Building 41 before and after the explosion in March. This worker had no skin lesions in May at the time the plant was first visited. Developed skin lesions during the past 6 weeks.

Presents early lesions of chloracne over the face, forehead, posterior aspect of neck, chest, axillae, and over the trunk.

Is under regular treatment.

27. Paul Willard. Has always worked in building 41 before and since the explosion in March.

Presents a few chloracne lesions on sides of face, behind ears, and back of neck. In addition, presents many lesions over the penis, buttocks and about the axillae.

This patient complains of severe joint pains in the legs and back.

28. Elmer Cortney. Began working in Building 41, May 2, 1949. Had not worked in this building previously and has continued to work in this building since the above date. Skin condition began about the middle of May.

Shows a slight melanosis especially around the left eye. Presents a mild chloracne involving the face, ears, forehead, front of legs and buttocks. No lesions on the neck.

29. Edgar Biddle. Has always worked in Building 41. Has not worked there just 4 weeks. Presents many chloracne lesions of the face, chin, neck, under jaw, forehead, legs, and trunk.

This worker also complains of leg pains.

30. Emil Truam. Began working in building 41 sometime in May. Eruption began all day after beginning to work in this building and at present is still working in building 41.

Presents comparatively few small cyst-like lesions on face, one large one under the right ear and many large lesions over the posterior aspect of the neck. The forehead shows no involvement but the trunk is comparatively free.

This worker also complains of pains in joints (neck and ankle).

31. George Saffern. Began working in building 41 3 months ago and has continued to work there since.

Face melanotic. The sides of the face, back of neck, axillae, forehead, thighs, penis, scrotum, and buttocks present characteristic lesions.

All the patients examined are under dermatologic treatment except patient #27, Paul Willard.

It will be noted that many of the workers complain of pain in the legs. It was at first thought that these were of psychogenic origin in some, and malingery in others, but after listing to all the symptoms I am forced to believe that it is part of the symptom complex of the same industrial exposure which caused the chloracne. This is the first time to my knowledge that chloracne was accompanied by muscular pains, therefore I cannot suggest any specific treatment. I think however, that massage and diathermy may be beneficial.

In my opinion the skin of the patients under treatment have improved, especially those who have been removed from Building 41. The number of lesions have diminished and the melanosis is fading out.

The following procedures are recommended.

1. Scrapings from the walls, ceilings, machinery, etc., be examined for the presence of chlorophenols to determine points of greatest contamination.
2. Building 41 and everything inside of it, bottles, machinery, walls, floors, windows, etc., be decontaminated by hand scrubbing with strong soap and water and using stiff brushes or brooms.
3. The outside walls, roof and immediate vicinity of Building 41, be given the same treatment. It may be necessary to close operations in the building for several days in order to accomplish this.
4. After the cleaning, scrapings should again be analyzed for chlorophenols to determine the efficacy of the decontamination.
5. Workers engaged in this work should wear impervious coveralls, gloves and boots and use a protective ointment, (Best 555) on exposed parts such as the face and neck. After the day's work they should take a cleansing shower and make a complete change of clothes.
6. Workers in the building after the clean up should be supplied daily with clean underclothes, work clothes and protective ointment.
7. They should take cleansing showers after each shift. In hot weather an extra shower can be taken before lunch.
8. A number of the cases show a complicating sycoais vulgaris, and it is suggested that these cases should sterilize their razors before using them. They should wash the face with soap and water before shaving and use alcohol on the face as an antiseptic after shaving. Those who have marked pustular or impetiginous lesions should take 600,000 units of oral penicillin daily.
9. For local application to sycoais vulgaris and pustular lesions I prefer Amniated Mercury ointment, 5%, or Unguent. calceolar comp. instead of an anti-biotic.

10. The severe cases of chloracne should be removed from Building 11 until such a time when we are satisfied that it is safe for them to return.

11. Whatever clothes the workers in Building 11 wore at the time of the accident and up to the final decontamination recommended above, should be "dry cleaned" or burned.

12. It would be advisable for me to see the patients at 2 month intervals.

Sincerely yours,

Louis Schwartz, M. D.

13/-