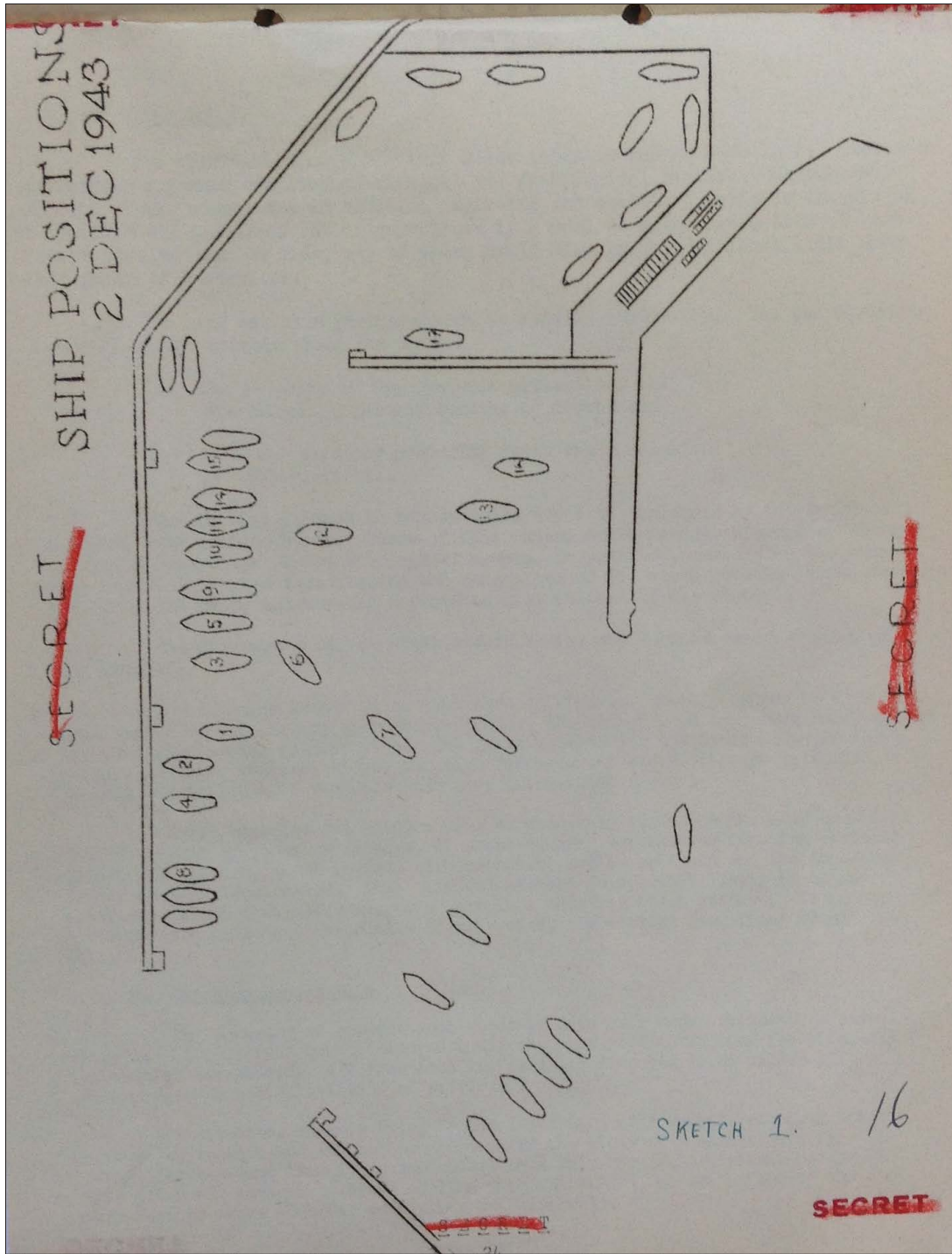


# Stewart F. Alexander, "Final Report of Bari Mustard Casualties" (excerpt), p. 1

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# Stewart F. Alexander, "Final Report of Bari Mustard Casualties" (excerpt), p. 2

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6. Miscellaneous. Sections of stomach in 19 cases showed no significant change, but in almost all there were marked post mortem changes. No sections of small intestine were available.

Sections of the heart in 15 cases, pancreas in 21, thyroid in 6, adrenal in 8, and skeletal muscle, aorta and brain in 1 each, were received. None of these showed any noteworthy changes except for the aorta in which there was an unusual deposition of calcium."

## 5. Analysis of Deaths.

There were 83 deaths that can be classified as due to mustard exposure. The deaths were distributed by day as follows:

1st day - 4 deaths	15th day - 1 deaths
2nd day - 9 deaths	16th day - 1 deaths
3rd day - 11 deaths	17th day - 0 deaths
4th day - 8 deaths	18th day - 0 deaths
5th day - 4 deaths	19th day - 2 deaths
6th day - 4 deaths	20th day - 1 deaths
7th day - 5 deaths	21st day - 0 deaths
8th day - 9 deaths	22nd day - 0 deaths
9th day - 9 deaths	23rd day - 0 deaths
10th day - 2 deaths	24th day - 1 deaths
11th day - 2 deaths	25th day - 0 deaths
12th day - 4 deaths	26th day - 1 deaths
13th day - 1 deaths	27th day - 1 deaths
14th day - 1 deaths	28th day - 0 deaths
After the 28th - 2 deaths	

The first death occurred 18 hours after exposure. The type of early death merits special mention as it was described as most impressive by those who witnessed them. Individuals in marked hypotonia (peripheral vascular shock) would be remarkably clear mentally. Their exodus was in many cases most sudden and abrupt, and not associated with respiratory distress, dyspnoea, cyanosis, or restlessness. Despite the possibility of certain of these early deaths being considered as blast injuries, competent observers did not feel that the deaths clinically were blast deaths. There were blast injuries in Bari that night and there were blast deaths, but these have been separated in so far as is possible from the group of casualties reported herein. While there undoubtedly may have been some elements of blast in many of these cases, the significant and the fatal factor was the exposure to mustard.

It is noted that there were two peak points in the death by day curve, one on the 3rd day and the second on the 9th day. The first peak was related to the acute systemic effects of the burns plus any acute systemic effects of the mustard. The 2nd peak represents the effects of secondary pneumonitis being imposed upon a toxic leucopenic patient. Eighty-eight percent of the deaths occurred within the first two weeks, and only 10 deaths occurred subsequent to the 14th day.

# Stewart F. Alexander, “Final Report of Bari Mustard Casualties” (excerpt), p. 3

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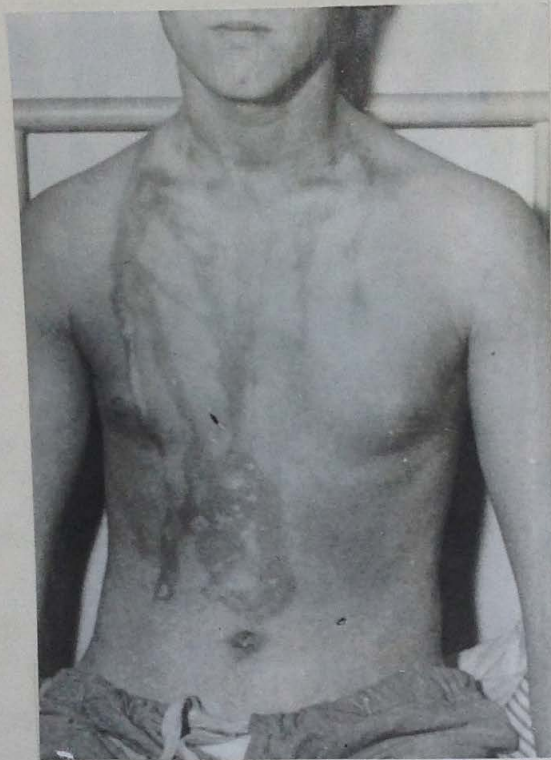


Figure 1

A skin lesion resulted in each area the mustard in oil solution contacted. Here it landed on the neck and ran down the chest and back.



# Stewart F. Alexander, "Final Report of Bari Mustard Casualties" (excerpt), p. 4

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10 Dec 43 Complains of sore throat.

11 Dec 43 Hoarse - almost complete aphonia. Cough  $\nearrow$ . Sputum  $\nearrow$ . Weak and breathless. Cyanosis. Chest - Respiratory excursion good. Small area of bronchial breathing with whispering pectoriloquy towards left base posterior. Few scattered moist sounds.

13 Dec 43 Condition improved. Cyanosis less marked. Cough less. Sputum less.

16 Dec 43 Half pint fresh blood given slowly. Off M&B 760. Total dosage - 52 gms.

18 Dec 43 General condition improved. Dressing stained with pus and smelling slightly. Sputum rusty. Cough easy and not distressing. Still has a definite patch of bronchial breathing and increased vocal resonance at left base posterior. Eyes slightly yellow - ? transient jaundice from transfusion.

19 Dec 43 Voice hoarse. Breathing tends to be obstructed by acclimation of sputum in throat which he can usually cough up easily. TPR falling slightly.

20 Dec 43 Throat sore. Copious frothy and mucopurulent sputum.

24 Dec 43 Still has complete aphonia. Cough  $\nearrow$ . Sputum  $\nearrow$ . Chest left posterior bronchial breathing and increased VR still present. Numerous moist sounds heard all over both chests.

29 Dec 43 ISQ (in statu quo). No signs of burns healing. Very weak. Cough  $\nearrow$ . Sputum  $\nearrow$ . Chest - dullness with bronchial breathing both bases.

4 Jan 44 Much worse this morning. Rapid gasping respirations. Pulse feeble. Chest as before. Colour - grey cyanosis. Profuse purulent sputum.  
1400 hours. Seen by Capt. Price. Very pale and dyspnoeic. No displacement of AB. Evidence of consolidation both bases. Expecterating large quantities of foul smelling purulent sputum. General condition very poor.  
1800 hours semi-conscious and delirious at times. Pulse very feeble and barely palpable at wrist. Moribund. Died 2230 hours.

(Sgd) J. M. McInroy, Capt, RAMC.

No AF B.117 Rendered  
P.M. Held and Report Attached.  
The notes require no comment. A late "pulmonary" death. The lack of response to the usually successful therapeutic measures has been noted in other cases in this series.

(Sgd) A. L. d'Abreu, Lt.Co., RAMC. 16  
O. i/c Surgical Division

(Sgd) Colonel ~~SECRET~~  
Commanding 98 General Hospital

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~~SECRET~~