VETERANS ADMINISTRATION
HOSPITAL
2002 HOLCOMBE BOULEVARD
HOUSTON, TEXAS 77031

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403174

December 15, 1970

YOUR FILE REFERENCE:

BEST COPY AVAILABLE

IN REPLY REFER TO: 580/172

Robert A. Conard, M.D.
Medical Research Center
Brookhaven National Laboratory
Upton, New York 11973

747 3000

PRIVACY ACT MATERIAL REMOVED

Dear Dr. Conard:

On November 3, 1970 Mr. of San Antonio, Texas was admitted to this hospital for observation and evaluation. From the enclosed discharge summary you may see that he had a multiplicity of complaints and was found to have certain conditions which he all related to an exposure to ionizing radiation in the Marshall Islands. In reviewing the locally available literature of follow-up examinations of these Marshallese, I noted that Dr. Sutow was a member of the team of examiners. When I called him for assistance he advised me to get in touch with you. I hope I am not imposing upon your time. I am enclosing also a statement Mr. has made about the accident.

My questions are: Are you aware of any American service men being on an island of the Bikini Atoll at the time of the fallout incidence other than Rongerik. Mr. claims that he was 20 miles from ground "0" while in fact Rongelap is listed as 105 nautical miles from ground "0" and Rongerik even farther. This appears to be a discrepancy unless there was another group of American service men somewhere else than Rongerik. Secondly I was wondering if you know of anyone who has done a close followup on the 28 American service men on the Island of Rongerik and with what results. Of course, I do realize that almost all of Mr. problems are not related to the incident, at least physically. Yet I do want to be fair and correct in my judgement. And this is the reason why I am seeking your advice and your help.

And one more favor! I would appreciate it if you could send me the reprints of articles published by your group on the Marshallese Islanders. I am looking forward to hearing from you and let me thank you in advance for your efforts.

Sincerely yours,

Felix J. Pircher, M.D.
Chief, Nuclear Medicine Service

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Encl.

Include Zip Code in your return address and give veteran's social security number.
Show veteran's full name and VA file number on all correspondence. If VA number is unknown, show service number.

PATIENT'S NAME		SEX	RACE	CLAIM NO.	SOCIAL SECURITY NO.	NAME OF HOSPITAL
	28	M	Whi			VA Hospital, Houston, T

DIAGNOSES (List and number in order of clinical importance all established diagnoses for which treatment was given. Place the letter "X" below the one diagnosis responsible for the major part of the patient's stay. For discharge to Nursing Care, place letter "N" before diagnosis(es) responsible for Nursing Care placement.)

ICDA CODE

1. Exogenous obesity. — 277
2. Diabetes mellitus. — 250.0
3. Gout. — 274
4. Low back strain — 846
5. Nevi and freckles on the skin. — 709
6. Euthyroid status in regard to thyroid problem. — 793.8

Major diagnoses noted but not treated

FILE COMPLETED DEC 3 1970

OPERATIONS PERFORMED AT THIS HOSPITAL DURING CURRENT ADMISSION — DATE

Skin biopsy, punch — 11-13-1970

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A2.9

SUMMARY (Brief statement should include, if applicable, history, pertinent physical findings; course in hospital, treatment given, condition at discharge; date patient is capable of returning to full employment; period of convalescence, if required, recommendations for follow-up treatment, medications furnished at discharge, competency opinion, and name of the Nursing Home, if known.)

This was the first Houston Veterans Administration Hospital admission for this 28-year-old, white service male electronic technician from San Antonio, Texas, who was seen for evaluation of his longstanding diabetes mellitus, gout, hypothyroidism, and lumbosacral strain. The patient also has had symptoms of postural hypotension. He dated all his problems back to irradiation in 1954 while in service. In 1954, the patient was on electronics and radio technician in the Air Force and was in the Bikini Atoll island during the hydrogen and atomic bomb testing. He, along with several others, was exposed on different occasions to a total of 2,490 rads and three days post exposure was measured himself to be carrying 35 rads of beta radiation. Accompanying letter can be read. He was noted also to have radiation sickness immediately after exposure. About 1957 - 1958, the patient noted multiple dark spots (nevi) on his torso, then his arms, neck, face and lower extremities. H also noted loss of hair, increased weight gain and appetite, polyuria and polydipsia. About this time, he also noted swelling of his ankles and finger joints. In 1963, while hospitalized for recurrent lumbosacral strain, he was found to have diabetes mellitus, hypothyroidism and acute gout. The patient had been treated with oral hypoglycemics for his diabetes mellitus and Benemid for his gout. The patient also had continued to have weight control problems and recurrences of his gout since then. Patient had multiple complaints now related to the above disorders as well as decreased hearing of the left ear, extreme nervousness, sciatic nerve pain of the left leg with use of the left leg. He also complained of numbness and tingling of the left lower extremity. He had also noted intolerance to certain foods, especially animal fat. He had also noted some dizziness and visual disturbance of late with postural changes. The patient felt that all of his problems were secondary to radiation he received in 1954 and wanted to be evaluated for this reason. He felt the government is responsible and should compensate for his afflictions. The social history included his occupation as an electronics technician in the Air Force radio technician, servied in the Bikini Atoll during

ADMISSION DATE	DISCHARGE DATE	TYPE OF DISCHARGE	INPATIENT DAYS	ABO DAYS	WARD NO.	SIGNATURE OF PHYSICIAN
11-3-1970	11-23-1970	O. & E. COMPLETED	20	—	106	S. K. NAVAZ, M.D., RESIDENT MEDICAL SERVICE 11-24-70

VA FORM FEB 1969 10-1000 EXISTING STOCK OF VA FORM 10-1000, FEB 1968, WILL BE USED. Tng 11-27-1970 HOSPITAL SUMMARY

DOE ARCHIVES

Bureau of the Budget
Circular A-32

CLINICAL RECORD

Report on
or
Continuation of S. F. Final Summary, November 24, 1970
(Strike out one line) (Specify type of examination or data)

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(Sign and date)

hydrogen bomb testing during 1954. Patient stated he did not drink, occasional social drinking. He was on DBI 50 milligrams trice a day, Benemid four times a day. Family history was not remarkable. In 1951, he had spinal meningitis and lumbosacral strain. In 1954, radiation sickness, diabetes mellitus and hypothyroidism and gout since 1963. He had an appendectomy and tonsillectomy and adenoidectomy in the 1950's. The review of systems was essentially as presented in the history of present illness. On physical examination, he was a well-develope moderately obese male in no acute distress, alert, conscious, coherent and intelligent. Blood pressure was 140/100 right arm recumbent position, pulse 88 and regular, respirations 20 per minute and regular. Head, eyes, ears, nose and throat examination revealed prominent conjunctivae, sclerae clear, pupils reactive to light and accommodation, fundi revealed Grade I to II changes and they also had small multiple exudates, bilateral, more on the left side. Uvula and soft palate midline. Tongue well papulated and midline. Neck - JVP not distended; carotids equal, no bruits; no lymph nodes palpable; thyroid barely palpable. The chest was clear to percussion and auscultation. Heart revealed PMI impossible to find secondary to massive obesity. Heart rate 88 per minute. Heart sounds quite normal; no murmur; no gallop. Abdominal wall was fairly obese, bowel sounds present, non-tender, non-rigid; no hepatosplenomegaly. Rectal normal, boggy prostate and a few external skin tags. Peripheral blood systems normal, peripheral vessels palpable. Skeletal system normal. Neurological examination revealed left lower extremity small deficit of sensory and position sense on the left. Motor system intact. Cranial nerves normal. Cerebral system normal. Gait and speech normal. Reflexes within normal limits. Examination of the skin reveals a few multiple freckles and nevi over the back, over the front and around the neck. The various investigations done while he was in the hospital showed the urinalysis - color yellow clear, reaction 6.0, specific gravity 1.013; albumin, sugar, acetone negative, occasional red blood cell, rare white blood cells. Culture and sensitivity was essentially negative. Later on, the urine examination revealed 10 to 12 white blood cells per high field. Urine culture and sensitivity revealed colony count more than 15,000 colonies, predominantly Streptococci, not enterococci. White blood cell count was 9,200, hematocrit 48%, hemoglobin 15.2, red blood cells 6.9. Reticulocyte count in the beginning was 5.3, later it fell to 4.2%. PBI was 4.2. Uric acid - initially, it was 8.5, later on in treatment with Allopurinol and Benemid fell down to 5.2. VDRL was non-reactive. Urine examination, Clinitest, revealed sugar 3 positive. WBC stone differential showed neutrophiles 56, bands 2, lymphocytes 37, monocytes 3, eosinophiles, platelets 204,000. Electrolytes: CO_2 24, chlorides 98, sodium 142, potassium 4.7, calcium 9.7, phosphorus 3.7 and uric acid 8.5. Cholesterol 269, urea nitrogen 13, creatinine 1.0, alkaline phosphatase

(Continue on reverse side)

PATIENT'S IDENTIFICATION (For typed or written entries give: Name—last, first, middle; grade; date; hospital or medical facility)

REGISTER NO.

WARD NO. 106

REPORT ON ______ or CONTINUATION OF ______

VA Hospital, Houston, Texas rmg 11-27-1970

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SGOT 48, SGPT 33 and LDH 139. Prothrombin time 11.2 patient, control 11.5 seconds. PTT 33.2 seconds, control 37.2. Occult blood in the stool was negative.

As the patient was a compensation problem with multiple complaints, many consultations were sought to evaluate his problem. Electrocardiogram revealed normal sinus rhythm. ECG within normal limits. X-ray studies done revealed curvature of the spine and the alignment and interspacing of the vertebrae appeared within normal limits. The sacroiliac joints were well outlined. Oral cholecystogram was negative. Films of the abdomen and lumbosacral spine - the films were difficul to interpret. No abnormal gas pattern seen; abdominal film within normal limits. Chest was negative for any etiologies. Thyroid studies included thyroid uptake 24 hours 16% while normal was 10 to 36%, T-4 = 5.8 mg.% (euthyroid range 5.0 to 13.7 mg. %. Thyroid scan - thyroid gland appears to be of normal shape with an even distribution of the radioisotope. EMG revealed there was minimal evidence of denervation of the left tibialis, extensor hallucis and gastronemius muscles. Dermatology consultation was of the opinion the patient had freckles and nevi over the body and their opinion were that they are benign. Metabolic and endocrine consultation evaluation of the patient as well as the thyroid studies - were within normal limits as recorded; known to have the diabetes which was treated DBI and was well controlled. Orthopedic consultation for his left lower extremity and back pain was of the opinion that the pain is due to nerve root deficit at the level of L-5 - S-1 on the left side, may be due to exogenous obesity; diabetes mellitus; hypothyroidism; and gout could be responsible for this also. The consideration for HNP between L-4-5 - L-5 - S-1 along with other metabolic disorder was considered. The patient was seen by ENT Service for his hearing problem on the left side which was reported as normal. He had an episode of epistaxis while on the floor and was seen again by the ENT Service and there was no bleeding while seen. Other tests were recommended to the patient, like [illegible] test, but the patient refused to undergo those tests, so he left the hospital before those tests could be done. Audiologic test done to evaluate his hearing problem was within normal limits. Skin biopsy of pigmented lesion of back was reported as showing lentigo. For his thyroid, DBI 50 milligrams by mouth twice a day and for his diabetes, diabetic diet. The patient was seen by Nuclear Medicine and their consultation was not returned at this dictation; this will be sent when it is finalized.

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Exposure #1: Thermo-nuclear shot, about the third or fourth detonation in the series. I was convinced to go on the premise that I would set up my radio, check it for operation and evacuate aboard ship at sea. However, when the time came the scientists did not think it a good idea to run the shot without a radio technician because of so many delays already due to other failures. I refused to stay on shore. I was promised evacuation if the radios would work over the remaining time left before 6:00 p.m. departure of all personnel and ships. The ships departed about 3:00 p.m. without me and I was then told I could leave with the coptors that were flying the scientists when they left after arming the bomb. Sometime around midnight the scientists returned to the bunker after releasing the copters and said they did not know I was supposed to go back with the copters etc., etc. and so I was "volunteered" to stay 20 miles from ground "0" with a 15 megaton thermonuclear device that was experimentally "souped up" to produce twice that, however later results showed three times or almost 50 megatons. At briefing time before shot hour we were all told what to expect and what to do and not to panic because the ships were close by and we would be evacuated if need be!

Shot goes off about 6:00 a.m. so good pictures can be taken. We are all shook up considerably and scared stiff! At 6:16 a.m. the door is opened and we go out to see results. We have no protective clothing and I have on "T" shirt, shorts, short sleeve khaki shirt and khaki bermudes and GI shoes. For detection I have only a film badge and a pocket doscimiter because I was not supposed to stay. Several minutes after leaving bunker someone yells "everybody back in, Hurry!!" A fine mist is falling and highly radioactive because the geiger counters are climbing rapidly. Before we can get to the bunker sand and debris are pelting us lightly. We go back in the bunker and report fallout to ships. While contemplating a decision for evacuation, the ships start getting fallout and they decide to go to sea so as not to endanger the ships and people on them. About 9:00 a.m. no more ship radio contact. About 9:30 a.m. we have power failure and thus radio failure.

At this time the geiger counter at the inside of the door was pegged at 500 R+, the room we were in was reading over 10R so we sought a "cooler" area. We found the only room left to us was reading about 50 MR.

No lights communication with ships, no air and the radiation level unknown because all the meters went to peg on hi scale except one. We were desperate! Estimation of ships return with loss of communications was three to four hours. Estimation of anyone surviving outside exposure was 18 minutes and cut to 12 minutes for safety factor. We all drew straws (9 of us) to see in what order we would go out, one every hour with a walky-talky to call the ships for 12 minutes maximum wrapped up in a bed sheet and was #6, we started at 12:00 p.m. at 3:00 p.m. we used #4 and he contacted the ships finally. They sent us two copters for men and classified junk. We wrapped ourselves with the only protection we had. Bedsheets! We mummy wrapped each other and fastened it down with masking tape. We used our two sheets each and left only eye holes to see and small ones at that. The copters buzzed the bunker on the way to the landing pad. We all got in abandoned two vehicles and

DOE ARCHIVES

drive to the landing pad (about two miles) about three minutes at 40 mph so as not to strain damaged vehicles and have a breakdown and become stranded. The geiger counters all read 500 R+ outside at this time. We reached the copters safe, boarded, and returned to the ships. It was now about 5:00 p.m. shot day. We landed the ship on a large canvas pad. We stripped on the pad (only the sheets). Went to a small stateroom and waited for disposal. After about 10 minutes we were all told to walk over an open grated companion way that stretched over open sea and we were salt water showered nude and checked o r with a geiger counter till we read 0 "gamma". I had no other clothes and was offered none so I re-dressed in my old clothes. I was last to shower 0 "gamma" and was forgotten thereafter aboard ship. It took about 12 hours to return to home base Eniwetok from Bikini. I slept on the first hangar deck with the wheel of a copter for my pillow that night. Returned to my squadron and reported on my assignment. On the second day after "0" I started to feel feverish, light headed, no appetite, constant headache. Very little sleep that night. On the third day after 0, I had severe headache, a tight forehead with loss and blurry vision, feverish and very nauseous. I went to the orderly room to report for sick call about 3:00 p.m. the third day after "0". My commander saw me and asked my problem I told him. He asked if I was de-contaminated. I told him about the sea water shower and the geiger counter check. He advised that I go to the Eniwoetok decon station first and then sick call. I do this.

A check for gamma shows some meter movement.
A check for Alphe shows 0.
A check for Beta shows 35R on top of my head only.

They send me to the shower to wash off. I go and wash and also lose fistfulls of hair. I come out, get checked and I am still hot about 12R. I return to the shower with a brush and scrub brush my head till I am sore. I now read about 75 MR. Again I go to the shower and stand under it for a long time, letting the water hit my head because it is so sore from scrubbing. Now I come out clean.

After dressing and a short talk with the men there, I feel real good now. No more headache, dizziness, fever, nothing; like I'm well again. In fact I was pretty hungry and so I go to chow because it was almost 6:00 p.m. I have miraculously recuperated so I do not go to sick call.

About two or three weeks later I am told by my Commander to return to the bunker to retrieve my tools and equipment because they were clearing the island and was supposed to be safe now.

<u>Exposure #2.</u> I return to bunker about three weeks later. Upon arrival I find the Bikini still hot (100R+) and only allowed two hours stay. I take only one hour and return to ship. I feel no ill effects this except for queazy feeling in stomach (maybe because of remembrances) for that day ohly.

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I am wearing full length airforce coveralls this time with T shirt and shorts underneath. No measuring devices given me. Return to squadron at Eniwetok.

Exposure #3. About the 7th or 8th shot in the series I was at Eniwetok working in my squadron. Everyone on the island (a skeleton crew) most people removed aboard ships. We were all (about 50 men in our group only visable) told to go down to avocw waters edge on the beach and lie face down with our hands covering our collars up high and fatigue caps on light and over our ears. This shot we all felt the heat of the fire ball and that fierce white light that makes everything look like a film negative and the air shock wave. No after effects at this time! This shot was across Eniwetok lagoon. I don't remember the distance and we all wore long pants and shirt fatigues plus T shirt and shorts. Only a few people had protective goggles. I did not get a pair! No detection devices were given to anyone either! This was a 30 to 50 K atom bomb.

Exposure #4. On the very last shot I was ordered to go to AEC island in the Eniwetok atoll. It was about 35 miles away from Enowetok Air Base. This shot I was about 80 miles from ground 0 with a 20 to 30K atom bomb. The work area was a corrugated aluminum building. They all said no danger. At shot time minus 1 minute everybody (scientists) scrambles outside the door and dives for cover. I am shocked and flabbergasted and go to the door to look, and everybody is crouched behind some large object. Finally someone sees me standing in the open doorway and they yell "get the hell down!" At the same time the shot goes off. It was a very cloudy overcast day where we were but clear at the shot site or else they wouldn't shoot. And I guess the weather protected me on that day. I saw a bright orange ball for a few seconds, too late to get under any cover, felt the heat of the fire ball and this one really had an air shock wave that cracked like a good size charge of dynamite and I felt my ears pop like riding in an airplane along with my body being pulled very quickly through a wringer because of the rapid under-over pressure of the surface air. No ill effects felt at this time. End of series back to states.

I was stationed at Eniwetok-Bikini for five months. After return to ZI and being a young bachelor I discovered I was impotent for three months. I was getting concerned now to go on sick call when the spell was broken in September 1954 on Labor day a great holiday for me! I am very noise sensitive, flash bulb sensitive, extremely nervous for a long time after. February 1960 I get married.
April 1961 I have a healthy, perfect nine pound baby girl. No defects or abnormalities at age two. Divorced December 1963. Have not seen since!

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About 1957-1958 discovery of dark skin discolorations on torso only, then arm neck, face, lower limbs in that order. Loss of regained hair on top of head. Extreme weight begins to build up out of control.
Voracious appetites (mostly at night). Poor sleep (toss and turn to distraction with heavy sweating episodes).
Heavy water drinking at night, heavy urination at night - broken sleep.
Extreme loss of energy.
Light headedness and dizziness.
Minor memory losses.
Swelling of ankle and finger joints only
Always tired and run down and sleepy.
Occasional tones and whistles in left ear.
November 1963 discovery of diabetes, hypo thyroidism and acute gout while in hospital for lumbar sacral strain.
Cannot digest animal fat.
August 1964 pinched sciatic nerve in left leg by acute lumbar strain. Loss of partial use of left leg.
Occasional fluttering of left ear drum and steady tones present.

Weight out of control.
Deterioration of diabetic condition.
Extreme deterioration of gout.
Occasional loss of hearing in left ear or steady tones.
Skin discolorations increasing all over body and face.
Tiny skin polyps growing on both sides of neck.
Extreme nervousness.
Return of loud noises sensitivity.
Atrophy of left leg muscles.
Poor digestion of certain foods and animal fat.

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