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## Brief Report

### SECURITY HUNGER-STRIKE PRISONERS IN THE EMERGENCY DEPARTMENT: PHYSIOLOGICAL AND LABORATORY FINDINGS

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**Abstract—Background:** Medical treatment of hunger-strike patients, especially those in incarceration facilities, may pose clinical and treatment challenges for the treating physicians. **Objective:** The aim of our study is to describe the epidemiology and clinical and laboratory characteristics of hunger-strike prisoners presenting to the emergency department (ED) and to describe etiologies of hospitalization and complications among this group. **Method:** We retrospectively examined clinical and laboratory manifestations of 50 hunger-strike prisoners who were referred for evaluation to the ED after a longstanding fast. **Results:** After a mean of 38 (28–44) days of a hunger strike, the most common complaints were chest pain and abdominal pain (14/60 [23.3%], 13/60 [21.6%], respectively). Mean weight loss percentage was 18.5%, and most patients were bradycardic (25/40 [62.5%]), and some hypothermic (16/50, [32%]). We describe several laboratory disturbances observed in these patients; leukopenia was the most common hematologic manifestation (31/50 [62%]), and a prolonged international normalized ratio was observed in 12/29 (41.3%) patients. We hospitalized 12% of the patients; the most common hospitalization cause was bradycardia (3/6 [50%]). **Conclusions:** Our study found that the most common clinical symptom was chest pain, which has not been previously reported among hunger strikers. We observed a substantial number of laboratory disturbances due to muscle wasting and protein loss and due to presumed vitamin and micronutrient deficiencies. We suggest monitoring electrocardiograms for heart rate, blood count, chemistry, coagulation tests, and vitamin levels. © 2018 Elsevier Inc. All rights reserved.

**Keywords—hunger strike; fasting; weight loss; primary malnutrition**

#### INTRODUCTION

In May of 2017, over a thousand Palestinian prisoners incarcerated in Israeli prisons for crimes related to terrorism and security matters organized a hunger strike to achieve improved conditions. To defuse a potentially dangerous situation and to ensure the medical well-being of the strikers, the Israeli prison authorities referred hunger strikers at a certain point in their strike (usually at day 38) to various hospital emergency departments (EDs) for medical assessment outside the prison system.

A hunger striker is defined as “a mentally competent person (or a group of people) who has indicated that he has decided to embark on a hunger strike and has refused to take food or fluids for a significant interval, usually until a specific condition is met” (1,2).

The total influence of fasting varies among individuals and depends on the characteristics of the fast (whether supplementation of fluids, sodium, vitamins, and sucrose are taken), on the length of the fast, on the individual’s fat deposits, and on their initial weight and percentage of weight lost (3,4).

Despite hunger strikes being quite a common phenomenon, especially in incarceration facilities, there is scarce medical literature describing the epidemiology and clinical and laboratory manifestations of such strikes, and

usually, these accounts describe strikes of relatively short duration with few participants (5,6).

The aim of our study is to describe the epidemiology and clinical and laboratory characteristics of a large group of hunger-strike prisoners several weeks into their strike and to describe their etiologies of hospitalization and complications.

## MATERIALS AND METHODS

### Study Design

This is an observational retrospective study. We examined the medical records of 50 hunger-strike prisoners who had been referred to the ED.

### Study Population

We examined 50 security prisoners on a hunger strike for up to 40 days.

Data about the type and number of dietary supplements, sugar consumption, etc. were acquired from the patients and prison authorities. The strike was publicly known to allow for oral fluids, the exact nature of which was not known.

Patients were referred by prison authorities as part of an action plan for treating hunger strikers that included an examination done outside the prison system at a predetermined interval into the strike. Prisoners had to agree to be transported for examination, and according to prison authorities, those who did not agree were not transported. In the ED, the patients were asked about and consented to each part of the assessment and treatment in the ED.

During the patient's stay in the ED, a history was taken (using a medical translator, if needed), vital signs and an electrocardiogram (ECG) were recorded, a complete physical examination was performed, and blood tests and urine tests were taken by the ED staff. The blood tests included a complete blood count; chemistry: glucose, electrolytes, albumin, prealbumin, and creatinine; liver function tests; and muscle enzyme assays, including troponin and creatinine phosphokinase. In specific cases, according to medical clinical judgement, imaging (such as chest X-ray study or ultrasound) was also performed, and some patients were hospitalized in internal medicine wards for further treatment or observation.

The institutional review board (Helsinki Committee) of the Rabin Medical Centre approved the study.

### Statistical Analysis

The statistical analysis for this paper was generated using SAS Software (version 9.4; SAS Institute Inc., Cary, NC). Continuous variables are presented as a mean  $\pm$  standard deviation. Categorical variables are presented by n (%).

## RESULTS

Overall, there were 50 hunger-strike patients admitted to the ED. All of them were male; their epidemiological characteristics are listed in Table 1.

Most of the patients were bradycardic at admission (25/40 [62%]), with a mean  $\pm$  standard deviation rate of  $60.5 \pm 15.1$  beats/min. Hypothermia ( $<36^\circ$ ) was also noted (16/50 [32%]), with a mean  $\pm$  standard deviation temperature of  $36.5^\circ \pm 0.81^\circ$  (range  $35.2^\circ$ – $36.9^\circ$ C). Chest and abdominal pain were the most common complaints (14/50 [28%], 13/50 [26%], respectively). On physical examination, mild and not pruritic dermatitis on the torso was found in 3/50 (6%) patients.

The vital signs, ECG findings, and clinical manifestation on admission are listed in Table 2.

Leukopenia was the most common hematologic manifestation of those hunger-strike patients (31/50 [62%]). Pancytopenia was observed in 4/50 (8%) patients, with a decrease in two of three cell lines in 21/50 (42.5%) patients. A prolonged international normalized ratio (INR) was observed in 12/29 (41.3%) patients (Table 3).

All patients were treated with fluids at admission (100%). Different fluid regimens were prescribed, but the most common regimen was dextrose 5% + 0.9% NaCl saline 1000 mL (46 patients [92%]). Nine patients (18%) needed more than 1 liter of fluids, mostly due to dehydration.

Most of the patients were treated with thiamine replacement (38 [76%]), and patients with a prolonged INR were treated with vitamin K supplement (8 patients [16%]).

The treatments given in the ED are listed in Table 4.

Six patients (12%) were admitted to the hospital for observation. Three of them (50%) were admitted with

**Table 1. Epidemiological Characteristics of the Fasting Prisoners**

Epidemiological Characteristics	
Male (n, %)	100%
Age, years	
Mean $\pm$ SD	28.5 $\pm$ 8.5
Median	27
Range	18–49
Days of strike	
Mean $\pm$ SD	38.2 $\pm$ 2.9
Median	38
Range	28–44
Weight (mean $\pm$ SD)	
Starting	80 $\pm$ 15.1
Current	64.3 $\pm$ 11
% of weight loss (mean $\pm$ SD)	18.5 $\pm$ 7.5
Current BMI (mean $\pm$ SD)	19.7 $\pm$ 3.17
Hospitalization (n, %)	6 (12%)

BMI = body mass index; SD = standard deviation.

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