

TREATMENT APPROACH FOR PATIENT STAGED HUNGER STRIKE



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PREFACE

Although hunger strikes do not stem from medical reasons they have medical consequences. The superficiality of the "prolonged fasting states" topic within the current medical curricula create an inclination for malpractice for the part of the physicians, with their treatment/follow-up dimension in hunger strike epidemic.

Unfortunately, the largest recurring hunger strike epidemics in the world are witnessed in our country [Turkey]. In the past, not only with its medical dimensions but also within ethical framework problems were observed. The pressures over the physicians for starting treatment without receiving informed consent are not in compliance with the established medical ethic rules.

As it is known, hunger strike (HS); is refusal of the participants to receive diet in order to attract attention to a situation or to protest it; and to express their several demands. This process which includes various amounts of water, salt, sugar and vitamin intake may show differences for various reasons; for instance sometimes vitamin intake might be prevented by the prison administration as an intervention to medicine.

In World Medical Association (WMA) Malta Declaration (1991) hunger strike is defined as "refusal of someone who with full mental capacity and free intention decided to make hunger strike to receive food and/or liquid for a certain time". It may be time-bound or

continuous.

As HS is often made by prisoners and convicted persons under prison conditions, it creates difficulties of follow-up and documentation. Although both the 1996 and 2000-2001 Hunger Strike and Death Fast [The hunger strike after a long period turned into hunger until death] data in our country provided significant medical experience, they are nevertheless inadequate to constitute a full treatment protocol. Lack of sufficient documentation during the fasting period and existence of different conditions during all hunger strikes, have an effect in this insufficiency.

The dissertation study with 1 year follow-up including all participants of 1996 Bayrampaşa Prison hunger strike + death fast was made in Istanbul University Medicine Faculty as a multidisciplinary study. By taking this study which is the most comprehensive documentation in its field as the basis, and also by integrating hunger strike experiences of the 2000s, the documentation in your hands was formed. In this study, knowledge and experiences of both the independent follow-up delegations which were founded by the Turkish Medical Association (TMA) and of its member physicians, in both of the epidemic were used.

Starting from the phrase inherited from Hippocrates, “there is no disease, but patient does exist”; our departure point is not to direct you “in such a field you are not probably without experience” but to be able to

help you. Together with your colleagues who experienced these events you can also share your experiences and ask help if necessary. TMA shall try to stand with you under all conditions.

Our common aim stems from the depths of the medical history:

“Primum Non Nocere”

“First of all, do not harm”

CLINICAL APPROACH

I. I. ANAMNESIS CHARACTERISTICS (CLINICAL COURSE DURING HUNGER STRIKE)

As we thought you shall have difficulties in receiving sufficient anamnesis about the fasting process, we summarized the HS process clinical course which is among the previous experiences. 1996 HS thesis study of Doctor Gökmen is a 69 days study with 67 cases. By assuming that for HS process anamnesis there is similar conditions for today, we give the findings of the 96 study. By the time of the article, information coming from the prisons shows that there is no or insufficient vitamin B intake. In 2000-2001 period, during HS vitamin B was received from the beginning. Its striking difference with the 1996 HS is that, complaints during the fasting process and deaths emerged in longer fasting period (in days with 100's). Although malnutrition is deeper, clinical course and sequels proceeded more moderate.

The patient, whom you first met, may be continuing hunger strike or ended. Because of the level of consciousness and that many patients are taken to your unit, some issues may be neglected in the anamnesis.

Important Issues for anamnesis

- At which day of the fasting is the pa-

tient, is it intermittent or prolonged

- How the patient is carrying out the hunger strike (amount, content and continuity of liquid, salt, sugar and vitamin received)
- How the hunger strike is ended (especially is there any IV application made before you?)
- Diseases before the hunger strike, medicine used, whether medicine is interrupted or not and medical history (hypertension, D. Mellitus, Hypoglycemia, thyroid diseases, cardiovascular diseases, Epilepsy etc.)

Hints about Anamnesis with regard to previous experiences

- Blood pressure-Pulse: All of the 1996 participants were complaining from more or less asthenia. From the 3rd week of hunger, orthostatic hypotension findings emerge; consequently in 33 participants syncope developed due to sudden standing up. And nearly in all of them tachycardia developed in the middle of the 2nd month. Especially in cases who did not take vitamin B bradycardia may develop in advanced phases.
- Nausea-vomiting-hiccups: Two of the 3 participants who became bedbound in days with 40's, lost their lives in days with 60's. These were the participants at the same time whose vomiting started during days with 40's. During

days with 50's, in all of them, vomiting at certain intervals emerge and nearly in half of them, vomiting becomes continuous.

- 30 percent of them became unable to receive liquid at days with 50's. And in 20 percent, liquid intake decreases clearly. In ten percent observable GIS and urinary system bleedings developed. In 5 percent troubling hiccups were present.

- Five Senses: Sensual irritability and losses develop in the foreground. Again at days with 40's, light, noise and smell sensitization starts and increases. Most significant is in 80 percent developing smell sensitization.

- Major Episodes: Typical course in all is repeating vomiting, inability to receive liquid, becoming bedbound, loss of consciousness and death if not treated.

- Pneumonia: In the autopsies, pneumonia is striking as the common cause. It may be suggested that lung infection accelerated by aspiration and weakening of the respiration muscles due to insufficiency of electrolytes such as potassium is accelerating the process.

- Wernicke Encephalopathy (WE): During the HS, consciousness disorders, diplopia, ataxia findings that might be associated with WE are moderately present in 30 percent of the cases. Especially we should not forget that, if no vitamin

B1 (thiamine) was not taken during the hunger at the days with 60's the vitamin B body stores start to be consumed with the sugar intake and WE findings may start.

- **Malnutrition:** During HS, observable weight loss occurs. During the HS, those who do not nearly have any complaints and those who lost their lives or ended hunger at major episodes took place at two extremes with equal rates as 15 percent. In assessments made over BMI (body mass index) there was no statistically meaningful difference among both groups.

II. II.FIRST EXAMINATION FINDINGS

Systemic Examination Findings ('96 hospital records taken as the basis)

Findings of marked malnutrition and dehydration shall be striking in the patient we will meet. In addition to this, findings for vitamin insufficiency shall be added to the table. During this period, as the patients continue their hunger strikes in rooms where there is only single or few persons are present, without taking any aid, their self care may be poor. In addition to dehydration findings over the skin, decubitis injuries may exist in those bedbound. In the physical examination especially auscultation sounds are important due to lung infections.

- If infection develops there may be fe-

ver. However in severe cases it should not be forgotten that rarely hypothermia may develop.

- Hypotension, bradycardia and orthostatic hypotension are present in all. These findings which are especially triggered by thiamine insufficiency can quickly be recovered by sufficient Thiamine replacement. In 1996 Doctor Gökmen thesis, detailed cardiologic follow-up and assessments revealed that the heart muscle mass decreased parallel with the body but the heart functions were maintained.

- Admission Biochemical Findings:

Serum electrolytes Na, K, Cl, Ca, Mg are low (due to vomiting, especially low Cl is expected). BUN and creatine may be found low. Serum albumin, total protein and globulin values are low. Moderate anemia is expected.

Neurological Examination Findings:

All of the 1996 HS+DF patients who had neurological examination findings had advanced light, noise and smell sensitization and losses in contrast to other hunger strikers at days with 40's and 50's in their medical history. Photophobia developed to such a degree so that they had to close the eyes with a black band. Decrease of vision, blurred vision, advanced vision loss was present in the majority. Smell sensitization, parosmia was significant. Rarely there was decrease of smelling sense. Noise sensitization, decrease of hearing, tinnitus in the form of humming-

engine operation was present. Positional vertigo could develop. The patients defined paresthaesia, tingling, pain and cramps in the extremities and migraine pain and occipital neuralgia.

In assessment of consciousness and mental state, in those who were exposed to follow-up in the hospital in 1996, stupor, somnolence and marked confusional states were seen. In the advanced days wakefulness disorders and mental disorders were identified. It should not be forgotten that in these patients IV dextrose application without thiamine addition was made in the beginning and WA, WKS tables developed. Such severe consciousness disorders are not expected in your patients since such an error will not likely to be repeated after accumulation of experiences and knowledge. You may rarely confront with a confusion table as a WA finding in your patients who did not take vitamin B during the hunger. The consciousness disorders may be most probably developed secondary due to dehydration, infection or deterioration of the general state.

In eye examination, if WA developed ophthalmoplegia, nystagmus may be observed. In the beginning loss of vision was definite. Xerophthalmia may occur. In the majority there may be more or less night blindness findings present. In the majority of the patients the optic disc was faint and rarely retinal bleeding was present in fundoscopic examination.

If WA developed ataxia findings may be fo-

und throughout in the body and extremity. Also positional vertigo may develop. Rarely Rhomberg (+) may be found.

In neuromuscular examination muscle weakness at levels 2-4/5 have developed in the extremity. There was decrease in deep tendon reflexes. In spite of paraesthesia reports of the patients, superficial sensations were normal. Deep sensations were partly impaired.

During the advanced days, of those patients whose sleepiness decreased while confusional state continued, their amnesic states started to be clearly observed. This amnesic state which is Korsakoff's syndrome is not expected in your patients. Because these were conditions which developed due to dextrose applications without thiamine supplementation after the ending hunger.

In the beginning, major depression with deep psychotic content, major depression, light euphoria and disinhibited behaviours, puerile behaviours were marked. The psychiatric conditions which developed almost in all of the patients who were subjected to follow-up in the hospital were assessed as neuropsychiatric demonstrations of "Korsakoff Psychosis".

III.TREATMENT (for the first ten days)

ELECTROLYTES:

POTASSIUM: If it is thought as 0.5-1 mEq/kg/24 h, for a patient with 50 kg, daily 2,5-5 ampoule may be added. After prolonged

fasting, together with the re-feeding process, the need for potassium replacement will be high. For this reason, blood level measurement twice a day is recommended.

Magnesium: 1-2 ampoules must be added to 1000 ml IV solution. The serum magnesium level should be maintained closed to highest normal levels of 2.6 mg/dl, 2.2 mEq/l or 1.1 mmol/l. You may not always obtain the magnesium examination from the laboratory. It is significant in the re-feeding process and highly required. Even though you cannot measure magnesium there is no inconvenience in giving 2 ampoules of magnesium per day. But there should be no renal problem in the patient.

In 1996 cases the kidney functions were maintained during long term hunger. But if there is renal problem in the pre-hunger medical history or in the current state of the patient, for K and Mg special attention should be paid.

Mg and K are too significant for evaluating the re-feeding. They should be kept at the upper limit of the normal interval as much as possible. For this reason for K you may start with 5 ampoules and for Mg with 2 ampoules and in the daily follow-up the amounts might be increased or decreased according to the need.

Sodium: Although hyponatremia is expected in the beginning hypernatremia may also be observed. If the initial sodium value is beyond 130-145 mEq/l range, then

treatment is recommended. If it is under 130mEq/Lt replacement is recommended. It should not be forgotten that the proposed substitute fluids during replacement also contain sodium and tolerance is lower in these patients. In patients where there is need for sodium follow-up, it is important that there would be no increases or decreases over 0.5-1 mEq/Lt value in hourly follow-up and over 10 mEq/Lt value in total 24 hours follow-up. It should not be forgotten that hyponatremia and hypernatremia may create significant problems. In hyponatremia slow replacement is recommended. In hypernatremia the most appropriate and rapid treatment may be obtained by drinking daily water. Water should orally be given either by nasogastric tube or normal drinking if oral intake has begun. Instead of giving fluids like IV dextrose, oral water together with infant formula [baby food] will decrease sodium more rapidly and efficiently. Until the condition stabilized, measurements with intervals of 4 hours must be done. (In the coming days, attention should be paid also to hypernatremia due to IV overload. During 2000 HS period, central pontine myelinosis developed because of sodium overload in one patient).

Calcium: Ionized calcium must be measured for sure. During long term hunger albumin level is low. Calcium which is found low in the laboratory result may really be secondary to low albumin level. If replacement will be done, ionized calcium must be low or

replacement must be done if corrected calcium is lower than the normal.

Corrected Ca: Measured total Ca + $[0.8 \times (4.5 - \text{albumin level})]$

Albumin: Without serum level is under 2.5 g/dl and if it is not symptomatic no external albumin delivery is recommended.

Phosphor: It is important for re-feeding follow-up. No replacement is recommended when it is found low. If phosphor is low, most likely energy is overloaded. In such a case make calorie and liquid restriction. If you cannot measure the phosphor level; the respiration problem findings which develop during the re-feeding process may be an indicator of calorie overload in the patient. In that case primarily restrict calorie and liquid. (As we have mentioned earlier, there was no heart failure findings was seen in the previous prolonged hunger strikes).

Vitamins:

Vitamin B1 (Thiamine): It is the most significant vitamin which requires replacement. 1gr/day must be given in the first 3 days. The Bemiks ampoule in the market is the preparate which contains the largest B1 with its 25 mg/amp content. If 5% dextrose is delivered 1 ml dextrose must contain 1 mg thiamine (For example; 20 ampoules of Bemiks must be added to 500 cc 5% dextrose). After the B1 amount given in dextrose is subtracted the rest must be added to Isolyte substitution fluid.

After the first 3 days, when oral /NG intake starts, tablets are continued. B1+B6+B12 combined preperates containing 250 mg thiamine must be used 2x1 (Apikobal tab, Benexol-B12 tab, Nerox-B12, Bevitab-B12 tab). If delivery of IV dextrose is required similarly it must contain 1ml dextrose /1 mg thiamine.

If Wernicke Encephalopathy developed or Wernicke-Korsakoff's syndrome developed 1gr/day thiamine must be continued much longer.

Vitamin C: Redoxon ampoule (2 amp/day).

Vitamin K: Libavit-K 1 ampoule/day (if there are symptoms or if INR is high it may be added if needed).

Carnitine: Carnitine may be delivered in all patients and especially in patients with high CK. Carnitine 500 mg/day is sufficient. (Carnitine ampoule 1x1/2 ampoule).

Vitamin B12: If no vitamin is taken during hunger Dodex ampoule IM 1x1 (for 1 week).

Vitamin E: Evigen ampoule IM 1x1 may suffice. We have to deliver vitamin A and folic acid orally.

Vitamin A: Avigen forte dr 2x1 drg/day

Folic acid: Folbioltab 1x1 tab/day

If the patient cannot be fed with oral/NG and if only IV fluid is delivered; if you have intensive care unit receiving support from the related physician is recommended. If the circumstances is provided in such patients

feeding may start with total parenteral nutrition (TPN) support and oligopeptide diet.

As in the majority such circumstances would not be provided, in such patients 1000 ml Isolyte + 1000 ml 5% dextrose may be applied in the beginning. In this group of patients enteral feeding with NG must be started in the shortest time. If dextrose is delivered it must paid attention that, for every 1 ml dextrose, 1 mg thiamine and potassium must be added.

In IV rehydration the most important issue is dextrose content which does not contain sufficient thiamine must never be given. Their thiamine stores are already or nearly exhausted. In this case the dextrose to be given will directly cause central nerve system damage. It is the cause of WA and WKS development. 1996 WKS cases emerged in this way. After 1996 and 2000 experiences there will be no excuse for existence of any patients with WKS diagnosis. It would be directly the neglect of the physician and constitutes a crime. In order to prevent WA and WKS development add 20 ampoules of Bemiks in each 500 cc 5% dextrose. (In Bemiks ampoule, there is 25 mg, and in Becozyme ampoule there is 20 mg thiamine). In the initial days daily 1 gr thiamine is definitely required.

If the patient is on enteral feeding, the ideal is starting with 1000 ml IV+1000 ml enteral feeding liquid. In patients who are exposed

to long term hunger; intestinal mucosa changes causing subtotal villous atrophy and malabsorption develop. The nerve system findings in the autopsies also show this condition. For this reason, enteral re-feeding must start with oligopeptide diet. The ideal is to apply peripheral partial TPN (total parenteral nutrition) support and oligopeptide diet until the patient is adapted to this diet. In 1996 HS patients despite application of TPN and oligopeptide diet in proper conditions, the carotene level at the 6th day was found low. Carotene insufficiency was showing that intestinal absorption was not yet provided in the 1st week. It is important in terms of acknowledging that maintaining mucosal integrity in the follow-up will be late.

The expected laboratory findings of your patient:

- Together with prolonged hunger the organism becomes smaller and it is minimizing nitrogen loss. For this reason serum BUN and creatinine values are generally low, and they were high in only 4 cases. It will decrease following rehydration.
- The metabolism because of the adaptations it developed minimize muscle collapse, if there is high serum CK level, this is an indicator that adaptation is exceeded.
- Serum protein and albumin rates will be low proportionally with malnutrition.
- Slight-moderate anaemia may be found in all cases.

- Vitamin levels will be low as expected. Vitamin A was low. As a detail, vitamin A insufficiency in the related study was clearly observed in the clinic as xerophthalmia, conjunctivitis and light blindness.

In patients who are exposed to long term hunger the target calorie intake at the beginning must be nearly 1000 kcal/day. In oral/NG feeding cases this target must be attained slowly in 3-4 days. The calorie intake should be gradually increased as to fulfill the entire daily need in about 10 days time span. The content of the diet is recommended to be without gluten and lactose. It is necessary to pass to re-feeding after long term hunger with oligopeptide (semi elemental) diet. In our country the only product in the present that may fulfil this exists as Peptisorb 500 ml.

In the follow-up of re-feeding and the metabolic response biochemistry will be highly helpful. The most important follow-ups will be **K, Mg and Phosphor**. K and Mg must be kept at the upper limit of the normal. If **phosphor** decreases during re-feeding this means there is energy surplus. In this case energy and liquid restriction must be done.

If phosphor and potassium are in normal course increases must be slowly made in the amount. Please prefer working together with a dietitian in the follow-up and planning of the feeding state.

Enteral Feeding Material Proposals

Peptisorb: It has oligopeptide (semi

elemental) content. 1 milliliter contains 1 kcal. Its osmolarity is low. In the first day of oral/NG feeding 500 ml Peptisorb is watered in half. Feeding is started with 500 ml/day (250 kcal/day). Moderate increases must be made with biochemistry follow-up. Infusion must be preferred in those patients fed by NG. Oral intake of oligopeptide diet is difficult for its taste.

In patients with open veins in the first 2-3 days 5% Dextrose 500 ml may be given in addition. (The first day total fluid intake: Isolyte 1000 ml + watered Peptisorb 500 ml + 5% Dextrose 500 ml = 2000 ml may be given).

Osmolite: It is not oligopeptide. But as it does not contain lactose and gluten and its osmolarity is low, it may be preferred if no oligopeptide product is found. Again 1 millilitre contains 1 kcal. Osmolite 250 ml is diluted with 250 ml water and half of the 500 ml is started. In the following days the amount is slowly increased.

After adaptation is maintained with oligopeptide diet in the following days you may continue with Osmolite. Osmolite oral intake is easier compared with Peptisorb.

Feeding proposals for the first 10 days for non hospitalized patients

Even though the patient is not hospitalized we recommend to start the re-feeding with oligopeptide diet and then to pass normal food. During that Osmolite may be used as

feeding product.

Simple sugar must be avoided (like lemonade, tea sugar). Oils must be avoided. Food which are difficult to digest and sedimented (like whole wheat, fresh vegetables, bulghur, milk) should not be consumed. Food with spices, sauce, pickled food and conserved food should not be used. Steaming and boiling as cooking method must be preferred. It should not be forgotten that egg whites contains highly digestible proteins.

Oral vitamin proposals for all cases

Vitamin B1+B6+B12: Apikobal tab, Benexol-B12 tab, Nerox-B12, Bevitab-B12 tab or their equivalents; 2x1 tab/day

Vitamin B complex: Becozyme-C Forte Lak tab, Bemiks film tab, Becovital-C soft capsule or equivalents: 2x1 tab/day

For vitamin C and Calcium: Calcium Sandoz+Vit C effervescent tab 1x1 eff tab/day

Vitamin E: Evicap forte soft capsule, Ephynal soft gelatine capsule or equivalents: 2x1 capsule /day

Vitamin A: Avigen forte drg 2x1 drg/day

Poly vitamin: One multivitamin tablet 1x1 may be used.

Vitamin B12: If possible serum B12 level and folate should be looked for, in its insufficiency or if no vitamin were taken during hunger without looking at the blood level Dodex ampoule 1x1 IM must be started

for one week by looking for if needed. Dodex ampoule IM/day (1 week)

Carnitin: Carnitene tablet 1x1 tab/day

Folic acid: Folbiol tab 1x1 tab/day

In nearly 10 days transition to sufficient oral feeding is planned. In patients with complications this period may be longer. When oral full feeding starts B1+B6+B12 vit 2x1 /day, B complex 2x1/day and multivitamin 1x1 /day may be continued. In feeding Osmolite may be used for supporting kitchen food.

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