Soft Tissue Infection after Missile Injuries to the Extremities. A Non-randomized, Prospective Study in Gaza City

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First, we thank Dr. Bar-Dayan and Prof. Goldberg for their comments, and for taking interest in our study. Dr. Bar-Dayan and Prof. Goldberg do not agree in our main conclusion: that minimal surgical treatment of missile injuries to the extremities can be an alternative treatment in situations with a high number of casualties and limited resources. They compare our results with other studies on civilian gunshot injuries, and conclude that the rate of infection in our study is 2–5 times higher.[1–4] An important question is to what degree these studies can be compared. First, in three of the studies, there are no clear definitions of a wound infection.[1,3,4] We argue that in our study, the registered number of infections probably is an overestimate. In fact, at first follow-up, only two patients (2%) experienced the classical signs of infection: purulent secretion, erythema, swelling, and pain. Second, the time interval between the injury and the diagnosis of a wound infection is not reported in two of the studies,[1,3] and in the other studies, the wound infection was diagnosed 5–25 days after the injury. Hence, until randomized studies with larger sample sizes are performed, we conclude that "minimal surgical treatment of missile injuries to the extremities can be an alternative treatment in situations with a high number of casualties and limited resources".

In the introduction to their comment, Dr. Bar-Dayan and Prof. Goldberg refer to the situation in Israel during the last decade, which they define as a *low-intensity conflict*. We completely agree with our colleagues that the situation inside Israel during the last decades is not similar to war. Israel is a well-organized society, with a high standard of living. Israel's medical facilities are excellent, and the surgeons are highly qualified in treating missile injuries. However, if our colleagues could imagine that the Israeli border was closed, that every harbor and every airport in Israel were either destroyed or closed, that for every 20 kilometers that the main roads were closed by check-points, and that the number of casualties was so high that you had to establish temporary hospitals—perhaps then you would define the situation as similar to war? The above-mentioned scenario was, in fact, more or less the situation in the Gaza Strip during the study period. Compared to Israel, the Gaza Strip has limited medical resources. At Al Quds temporary hospital, we did not have external fixators, facilities such as computed tomography, magnetic resonance imaging, and angiography were not available, and no microbiological diagnosis could be performed. Injuries to the chest and abdomen were treated at the main hospital in Gaza City, Shifa Hospital. During our stay in the Gaza Strip, most surgical beds at the Shifa Hospital were occupied by patients with missile injuries. For long periods of time, the ability to move along the Gaza Strip was prohibited due to closed check-points, and medical staff were not able to return home to their families who lived only 20 kilometers south of Gaza City. Furthermore, the number of casualties is much higher in Palestine compared to Israel. According to statistics published by an Israeli humanitarian organization and the Palestinian Red Crescent Society, the number of casualties due to the Israel-Palestine conflict, is approximately 10 times higher in Palestine compared to Israel (Tables 1 and 2). Taken into consideration that the Gaza Strip in general, and Gaza City in particular, is one of

Palestinians killed by Israeli security forces	4,039
Palestinians killed by Israeli civilians	41
Israeli civilians killed by Palestinians	705
Israeli security force personnel killed by Palestinians	316

Table 1—Fatalities due to the Israeli-Palestine conflict during the period 29 September 2000–31 March 2007. Data are registered by The Israeli Information Center for Human Rights (B'Tselem)[5]

	Deaths	Injuries
Israeli army casualties	23	342
Palestinian casualties	347	7,528

Table 2—Casualties during the first four months of the second Palestinian Intifada (October 2000–January 2001) according to the Israel Defense Forces and Palestinian Red Crescent Society[6,7]

the most crowded areas in the world, we conclude that the situation during the study period was similar to war.

In general, every prospective study should include an informed consent. However, the present study was neither randomized, nor was any new treatment introduced. In fact, the particular principle for treatment that was evaluated in our study was implemented by many Palestinian surgeons during the first Intifada (1987–1993). Our study did not influence the treatment that the patients received. The study evaluated the quality of a treatment that would have been given anyway. We apologize that this aspect of our study was not made clearer in the article. Under normal, civilian conditions, we would have asked the participants to give an informed consent. However, due to the special circumstances in the Gaza Strip during the study period, we found this difficult to implement. We discussed the design of the study with the Palestinian Red Crescent Society, and they approved the study protocol.

In this study, we have tried to relate strictly to medical terms. In their editorial comment, our colleagues in Israel use non-medical terms such as *terrorist attack*. One should keep in mind that such terms are ill-defined, and who is the terrorist and who are the victims varies by viewpoint. Consider that most Palestinians view the heavily-armed Israeli settlers as terrorists. So, with no intention of being impolite, we advise our colleagues in Israel not to use such politically loaded terms in medical journals.

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