

INVITED COMMENTARY

After Post-operative Pain Now the Post-operative Fatigue Syndrome: Wash My Fur But Do Not Wet Me?

Rene' G. Holzheimer

© Société Internationale de Chirurgie 2008

In this article, Zargar and Hill [1] prove with an extensive literature search that there also is a post-operative fatigue besides post-operative pain. And this syndrome, they believe, can have considerable meaning for the patients and society. This syndrome can persist for several months and delay considerably return to work [1]. This sounds like a new challenge for surgery and anesthesia or the pharmaceutical industry. We must get a grip on it also.

But this analysis also has some weaknesses which the authors do not conceal. There are no clear generally accepted factors which describe the post-operative fatigue. Instead, what we have are questionnaires and scores for the query of subjective changes, or biochemical parameters, such as cytokines, cardiovascular and nutritional changes or changes of the musculoskeletal system.

Obviously, the patient's emotional condition may have considerable influence on the recovery after an operation [2]. This can be influenced by a variety of other events and is not always subject to the influences of the treatment. Post-operative fatigue syndrome correlates significantly with increased neopterin concentrations as reported by Paddison et al. (2008) who have measured the parameters in the blood and in the peritoneal fluid [3]. However, one must not forget the experiences with cytokine measurement in sepsis. Correlations of biochemical parameters with the severity of sepsis have been demonstrated again and again without a sensitive and specific marker having been

established as a gold standard to this day. Also Ai et al. [4] could not establish any connection of mediators with the post-operative fatigue syndrome; but they found out that religiousness and optimism could predict a post-operative fatigue independently.

The surgical trauma plays a larger role [5–7], also through the duration of an operation [8], in the appearance of a post-operative fatigue syndrome than previously thought. Kehlet reports [9], that pain, ileus, cardiopulmonary function, muscle function and post operative fatigue could be improved by the introduction of the fast-track surgery. An essential change of fast-track surgery is the brief hospitalization also after major colorectal interventions. Could one therefore conclude that the post-operative fatigue would also be a consequence of the hospital stay? Unfortunately, no data is available in this review on post-operative fatigue following ambulatory operations. Possibly even the gentle operative variant as introduced by Kehlet, the laparoscopic surgery, may be more affected by the post-operative fatigue syndrome than previously presumed. Eriksen and colleagues [10] reported that patients had considerable pain and post-operative fatigue after a laparoscopic repair for an abdominal hernia. They even stated that the quality of life of these patients was still affected 6 months after the intervention [10].

After the author of this piece had to undergo recently a minor surgical intervention on his jaw, he noticed some postoperative tiredness. He did not call it a "postoperative fatigue syndrome" but thought that this could be something normal, natural and helping the recovery. In conclusion, in order to introduce postoperative fatigue into normal daily clinical practice a simple and reproducible definition for diagnosis is needed, especially to differentiate postoperative fatigue from a "normal" "recovery response" after surgery.

34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68

A1 R. G. Holzheimer (✉)
A2 Sauerlach, Germany
A3 e-mail: gresser.holzheimer@t-online.de

70 References

- 71 1. Zargar S, Hill A (2008) Post operative fatigue – a review. *World J Surg*
72 Surg 87
- 73 2. Trzcieńska-Green A, Bargiel-Matusiewicz K, Borczyk J (2007) 88
74 Quality of life of patients after laryngectomy. *J Physiol Pharmacol* 58(Suppl 5(Pt 2)):699–704 89
- 75 3. Paddison JS, Booth RJ, Fuchs D, Hill AG (2008) Peritoneal 90
76 inflammation and fatigue experiences following colorectal surgery: a pilot study. *Psychoneuroendocrinology* 33(4):446–454 91
- 77 4. Ai AL, Peterson C, Tice TN, Rodgers W, Seymour EM, Bolling SF (2006) Differential effects of faith-based coping on physical 92
78 and mental fatigue in middle-aged and older cardiac patients. *Int J Psychiatry Med* 36(3):351–365 93
- 79 5. Han SS, Kim SW, Jang JY, Park YH (2007) A comparison of the 94
80 long-term functional outcomes of standard pancreatoduodenectomy and pylorus-preserving pancreatoduodenectomy. *Hepatogastroenterology* 54(78):1831–1835 95
- 81 6. Oh S, Miyamoto H, Yamazaki A, Fukai R, Shiomi K, Sonobe S, Saito Y, Sakuraba M, Futagawa T, Sakao Y (2007) Prospective 96
82 analysis of depression and psychological distress before and after surgical resection of lung cancer. *Gen Thorac Cardiovasc Surg* 55(3):119–124 97
- 83 7. van Beek AP, van den Bergh AC, van den Berg LM, van den Berg G, Keers JC, Langendijk JA, Wolffenbuttel BH (2007) Radiotherapy is not associated with reduced quality of life and 98
84 cognitive function in patients treated for nonfunctioning pituitary adenoma. *Int J Radiat Oncol Biol Phys* 68(4):986–991 99
- 85 8. Gögenur I, Ocak U, Altunpinar O, Middleton B, Skene DJ, Rosenberg J (2007) Disturbances in melatonin, cortisol and core 100
86 body temperature rhythms after major-surgery. *World J Surg* 31(2):290–298 101
9. Kehlet H (2006) Future perspectives and research initiatives in fast-track surgery. *Langenbecks Arch Surg* 391(5):495–498 Sep 102
10. Eriksen JR, Poornorooy P, Jørgensen LN, Jacobsen B, Friis-Andersen HU, Rosenberg J. Pain, quality of life and recovery after laparoscopic ventral hernia repair. *Hernia*. 2008 Aug 103
104
105
106

UNCORRECTED PROOF