

Evaluation of the current treatment concepts in Germany, Austria and Switzerland for acute traumatic lesions to the prepatellar and olecranon bursa

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ARTICLE INFO

Article history:

Accepted 31 July 2012

Keywords:

Injury
Trauma
Laceration
Bursa
Olecranon
Prepatellar

ABSTRACT

Background: Although traumatic lacerations of the olecranon (OB) and praepatellar bursae (PB) are common entities often associated with complications, no study could be found on this injury. The aim of this study was to survey the current treatment concepts for acute traumatic laceration of the OB and PB in Germany, Austria and Switzerland.

Materials and methods: An international online survey was conducted among orthopaedic and trauma surgeons in Germany (TraumaNetwork DGU), Austria (Austrian Society of Trauma (ÖGU) and Orthopaedic (ÖGO) Surgeons) and Switzerland (Swiss Orthopaedic Surgeons and Swiss Society of Infectious Disease (CH)) ($n = 1967$). The survey comprised of five demographical questions, the current treatment concepts were evaluated using a case study.

Results: The overall-response-rate was 16% (12–46%). 88% of the responding physicians were male, aged 47.5 ± 10.2 years with a mean working experience of 20.1 ± 10.6 years. 54% of the surveyed physicians were either senior or chief physicians. Treatment concepts varied significantly between DGU and ÖGO/CH ($p = 0.02/p = 0.006$), no significant differences could be found between DGU and ÖGU. Generally, German and Austrian trauma surgeons favoured bursectomy (86.7%/90.9%) and immobilisation (68.3%/77.3%). Austrian orthopaedic surgeons performed fewer bursectomies (69.3%) but had the highest proportion for administering antibiotics (73.9%). Less than 50% of Swiss physicians indicated bursectomy as a treatment option.

Conclusion: Overall, this survey revealed a significant heterogeneity in treatment approaches in Central Europe. Further evidence is needed to identify the best treatment concepts for traumatic lacerations of the OB and PB.

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Introduction

Bursae are closed cavities lined by a synovial membrane which form after birth and serve to reduce friction between adjacent tissues during motion. Commonly diseased bursae are the olecranon (OB) and prepatellar bursae (PB). In general, one has to differentiate between acute septic/non-septic bursitis, chronic/recurrent bursitis and traumatic lacerations of the OB and PB. Whereas several studies report on diagnosis and treatment of acute/chronic olecranon and prepatellar bursitis,^{1–6} the authors

are not aware of any study focusing on the treatment of traumatically lacerated OB and PB.

However, due to the bursae's exposed and superficial location, traumatic laceration of OB and PB has to be considered a common injury. With no epidemiological data published, the authors (FD, SFB) reviewed the records of the Department of Traumatology of the Medical University of Vienna in 2010 and identified 105 patients who were treated for a traumatic laceration of the OB or PB.

Whereas the diagnosis of a traumatic OB/PB laceration is not challenging, clinicians have to think of several potential treatment approaches, including one- or two-stage bursectomy, open drainage, simple suture of the wound or reconstruction of the bursa. With no literature available, the authors searched textbooks for guidance in this field and found very little

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documentation dealing with the treatment of traumatic OB and PB laceration, most often recommending bursectomy and immobilisation.^{7,8}

Due to lacking evidence and several possible treatment strategies, the aim of this study was to survey the current treatment concepts for traumatic laceration of the OB and PB in Germany, Austria and Switzerland, in order to collect exploratory data on the treatment approaches for this common injury and to evaluate possible treatment differences within Central Europe.

Materials and methods

In the course of a large anonymous online survey of orthopaedic surgeons in Germany, Austria and Switzerland on the treatment of olecranon and prepatellar bursitis, we evaluated the current treatment concepts for traumatic lacerations of the PB. The questionnaire's flowchart is presented in Fig. 1. Following 5 demographic questions, the current treatment concepts were evaluated using a case study and a combination of multiple-choice answers and development answers. The survey was designed to be distributed via e-mail using Interview (Interview 123 5.5.b.e ND3, 15 rue Georges Perec, 38400 Saint Martin, d'Herès, France). Each survey was online for approximately one month and reminders were sent out two weeks after the initial distribution.

German survey

The questionnaire was mailed to certified clinics of the TraumaNetwork DGU[®] of the German Society of Trauma Surgery revealing their contact information online ($n = 233$, as of June 22nd 2011). At that time data was available for 39 Level I, 80 Level II, and

114 Level III trauma centres (as defined in Table 1) throughout Germany.

Austrian survey

The Austrian survey was conducted in cooperation with the Austrian society of orthopaedic surgeons (Österreichischen Gesellschaft für Orthopädie und orthopädische Chirurgie; ÖGO) and the Austrian society of trauma surgery (Österreichische Gesellschaft für Unfallchirurgie; ÖGU). Orthopaedic and trauma surgery were traditionally two separate specialties in German-speaking countries. The survey was mailed to all current members of the ÖGO ($n = 838$), which, according to the ÖGO, includes approximately 90% of all Austrian orthopaedic surgeons (average age 48.7 ± 12.6 years, 14.9% female). The ÖGU surveyed all heads of trauma surgery departments in Austria who were members of the society ($n = 69$).

Swiss survey

All members of the Swiss Society of Infectious Disease (infectiologists; $n = 242$) and orthopaedic surgeons listed in the Foederatio Medicorum Helvetorum ($n = 585$, according to their homepage 95% of all Swiss physicians) were contacted via e-mail. E-mails contained a cover letter and a link to the survey, which was available in German and French. No reminder was sent.

Statistics

Statistical calculations were performed using the free software R (version 2.13.0), for inferential statistics p -values of $p < 0.05$ were deemed significant. Differences between samples for the variables of interest were established using χ^2 tests post hoc tests

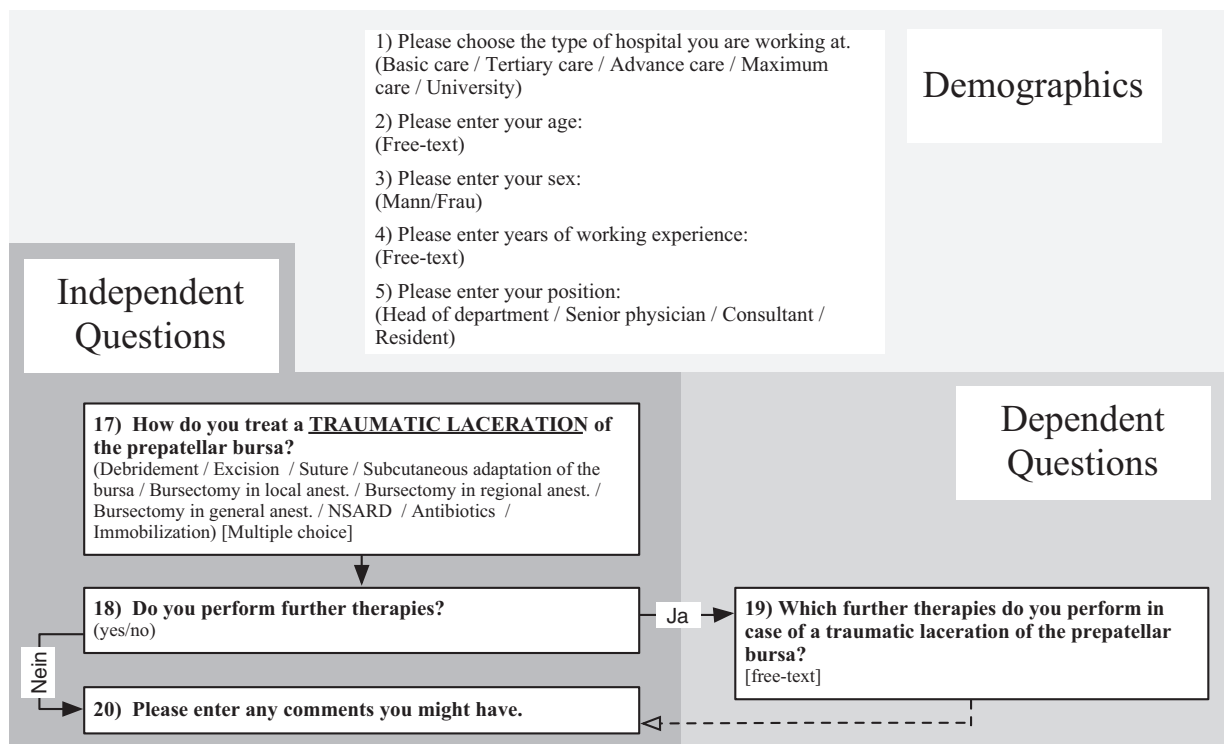


Fig. 1. Questionnaire's flow chart.

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