

Acupuncture-related adverse events: a systematic review of the Chinese literature

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Objective To systematically review the Chinese-language literature on acupuncture-related adverse events.

Methods We searched three Chinese databases (the Chinese Biomedical Literature Database, 1980–2009; the Chinese Journal Full-Text Database, 1980–2009; and the Weipu Journal Database, 1989–2009) to identify Chinese-language articles about the safety of traditional needle acupuncture. Case reports, case series, surveys and other observational studies were included if they reported factual data, but review articles, translations and clinical trials were excluded.

Findings The inclusion criteria were met by 115 articles (98 case reports and 17 case series) that in total reported on 479 cases of adverse events after acupuncture. Fourteen patients died. Acupuncture-related adverse events were classified into three categories: traumatic, infectious and “other”. The most frequent adverse events were pneumothorax, fainting, subarachnoid haemorrhage and infection, while the most serious ones were cardiovascular injuries, subarachnoid haemorrhage, pneumothorax and recurrent cerebral haemorrhage.

Conclusion Many acupuncture-related adverse events, most of them owing to improper technique, have been described in the published Chinese literature. Efforts should be made to find effective ways of monitoring and minimizing the risks related to acupuncture.

Une traduction en français de ce résumé figure à la fin de l'article. Al final del artículo se facilita una traducción al español. الترجمة العربية لهذه الخلاصة في نهاية النص الكامل لهذه المقالة.

Introduction

Acupuncture is popular in most countries, but nowhere more than in China. Because its use is so widespread, safety is an important issue that deserves close attention. Serious adverse events resulting from acupuncture, including pneumothorax, cardiac tamponade, spinal cord injury and viral hepatitis, have been identified in previous literature reviews.^{1–4} Prospective surveys to determine the frequency of acupuncture-related adverse events have been conducted in Germany,^{5,6} Norway⁷ and the United Kingdom of Great Britain and Northern Ireland.^{8,9} These studies have shown an incidence of mild, transient acupuncture-related adverse events that ranges from 6.71% to 15%. The most common adverse events of this type were local pain from needling (range: 1.1–2.9%) and slight bleeding or haematoma (range: 2.1–6.1%). In a prospective observational study of 190 924 patients, the incidence of serious adverse events (death, organ trauma or hospital admission) was about 0.024%.⁵ Another large-scale observational study showed a rate of adverse events requiring specific treatment of 2.2% (4963 incidents among 229 230 subjects).⁶ Studies such as these have shown that in extremely rare cases acupuncture can lead to serious, sometimes life-threatening complications, in addition to mild and transient adverse events.

Because most reports on the safety of acupuncture have been published outside China, the objective of this article was to summarize the Chinese literature on the subject of acupuncture-related adverse events and determine the possible reasons that such events occur.

Methods

Inclusion/exclusion criteria

In December 2009 we searched the following electronic databases: Chinese Biomedical Literature Database (1980–2009), Chinese Journal Full-Text Database (1980–2009) and Weipu Journal Database (1989–2009). The search terms were: (*acupuncture* OR *needle*) AND (*induce* OR *cause* OR *adverse event* OR *adverse reaction* OR *side effect* OR *complication* OR *harm* OR *risk* OR *mistake* OR *infection* OR *injury* OR *fainting* OR *haemorrhage* OR *bleeding* OR *death* OR *pneumothorax* OR *pain*). We searched for these terms (in Chinese) as free text in the title or abstract, and we also hand-searched the reference lists of all reports located through the electronic searches.

Case reports, case series, surveys and other observational studies were included in the review if they reported factual data on complications related to acupuncture. Review articles, translations and clinical trials were excluded. The search was limited to Chinese-language papers.

Different types of acupuncture can lead to different adverse events. To present clear results, we only included reports on traditional needle acupuncture, defined as a procedure in which stainless steel filiform needles are inserted into acupoints – acupuncture points located throughout the body that are associated with specific therapeutic effects – and manipulated in place. Other types of acupuncture, such as electroacupuncture, laser acupuncture and auricular acupuncture, were excluded.

Two authors (Zhang and Shang) independently examined the titles and abstracts of all papers found through the search to determine if they fulfilled the inclusion criteria outlined

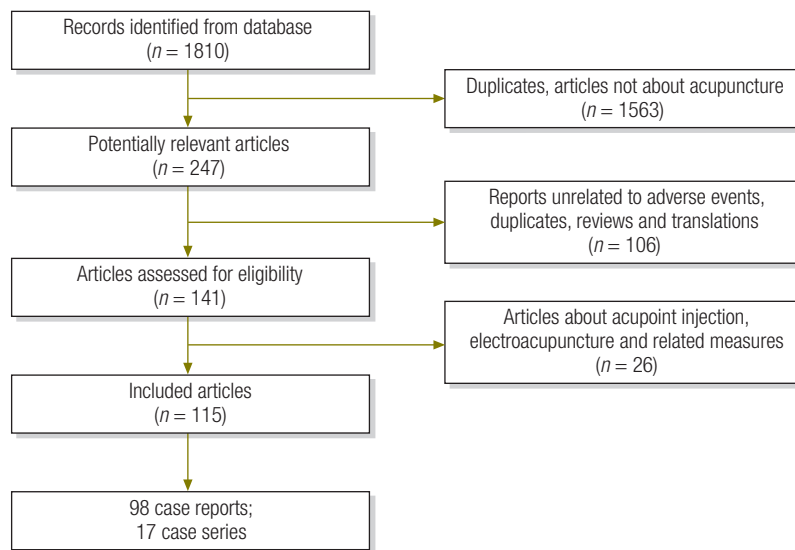
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Fig. 1. Flow diagram for systematic review of the Chinese-language literature on adverse events related to traditional needle acupuncture, 1980–2009



above. The full texts of potentially relevant articles were retrieved for detailed assessment. Disagreements between the two authors were resolved by discussion.

Information on author, patient, acupuncturist, acupuncture site, adverse event, treatment and outcome was extracted from the primary articles and entered into a pre-formulated spreadsheet. Acupoints were described by *pinyin* name (i.e. the Latinized spelling of traditional Mandarin Chinese names) and code according to a standard nomenclature developed by the World Health Organization.^{10,11} These data have been summarized in three tables according to the type of adverse event.

Results

Our inclusion criteria were met by 115 articles (98 case reports and 17 case series) (Fig. 1). We noted no clear trend in the frequency of reports of acupuncture-related adverse events over the past 30 years.

In total, 479 cases of acupuncture-related adverse events were reported. Patients ranged in age from 2 to 73 years. The first authors of the papers were members of medical departments, court jurisdictions and police departments. Only 20% of these authors were the acupuncturists who performed the procedure that caused the adverse event. The reported acupuncture-related adverse events were classified into three categories: traumatic (Table 1, available at: <http://www.who.int/bulletin/volumes/88/12/10-076737>), infectious (Table 2) and “other” (Table 3).

Traumatic events

Traumatic injuries were reported in 87 articles (73 case reports and 14 case series) and totalled 296 cases. The events were classified into seven subgroups according to the type and site of the injury.

Arachnoid and spinal dura mater

Nine cases of spinal epidural haematoma (in the cervical, thoracic and lumbar spine) were reported. No further information was provided.

Subarachnoid haemorrhage was reported in 35 patients, 3 of whom died. The others recovered after 1 to 8 weeks of treatment. One of the deceased patients had a history of hypertension and cerebral haemorrhage and died 10 days after the acupuncture. The other two patients died within 30 minutes of having undergone the acupuncture, perhaps as a result of injury to the medulla oblongata.

The acupoints most frequently involved in cases of subarachnoid haemorrhage and spinal epidural haematoma were Fengchi (GB20), Yamen (GV15), Fengfu (GV16), Dazhui (GV14) and Tianzhu (BL10). In several cases, the needles were inserted to a depth of 4 to 5 cm below the skin's surface, and such deep insertion is suspected to have led to injury.

Thoracic organs and tissues

With a total of 201 cases, pneumothorax was the most frequently reported acupuncture-related adverse event. Four patients died from it and the others recovered after 2 to 30 days of treatment. One

patient was a 70-year-old woman with a history of chronic bronchitis, emphysema, cor pulmonale and heart failure who died from pulmonary infection, heart failure and pneumothorax. Two more women died after not receiving timely treatment for pneumothorax caused by needling at the Jianjing (GB21) and Tianding (LI17) acupoints. The fourth patient died from tension pneumothorax but no further information was provided.

The acupuncture sites in these cases were primarily in the shoulder and scapular regions (64%) and in the chest (24%). In two cases, the Tianding (LI17) point in the neck area had been needled. The most frequently used acupoints were Jianjing (GB21; 30%), Feishu (BL13; 15%), Quepen (ST12; 10%) and Tiantu (CV22; 10%). Other acupoints were Ganshu (BL18), Shenshu (BL23), Tianding (LI17), Jiuwei (CV15), Jujue (CV14), Jianzhen (SI9), Quyuan (SI13) and Dingchuan (EX-B1).

Chylothorax was reported after needling at the Feishu (BL13) point in a 21-year-old man with a malformed thoracic duct. Right ventricular injury was reported in four cases, two of which recovered after surgical treatment. The other two patients died from right ventricular puncture complicated by cardiac tamponade and multiorgan dysfunction syndrome. One case of aortic artery rupture was reported after needling at the Qimen point (LR14) at a depth of 4 cm; the patient died within 15 minutes. Coronary artery injury with cardiac tamponade was reported in a man who treated himself for chronic bronchitis and lost the needle at the Zhongfu point (LU1).

Abdominal organs and tissues

Injuries of abdominal organs and tissues were reported in 16 patients, all of whom recovered after surgery. These instances included perforations of the gallbladder, of the bowels and of the stomach, frequently complicated by peritonitis. A 2-year-old boy suffered intestinal wall haematoma with intestinal obstruction after acupuncture treatment for diarrhoea.

The acupoints associated with such adverse events were Tianshu (ST25), Zhongwan (CV12) and Qimen (LR14). Most of the patients underwent acupuncture for abdominal pain, attributable mainly to appendicitis or cholecystitis. Deep needling accounted for most of the abdominal injuries.

Table 2. Case reports of infection after traditional needle acupuncture, as identified through a systematic review of the Chinese-language literature, 1980–2009

Reference ^a	Cases ^b (age in years and sex)	Reason for acupuncture	Acupoint (code ^c or site)	Adverse event	Outcome	Caused by acupuncture?
Zhang JG. Acupuncture caused buccal space abscess. <i>Med J Chin People's Armed Police Forces</i> 2007;18:778.	23, male	Toothache	Buccal region	Buccal space abscess	Recovery	Probably
Zhao YJ. Acupuncture induced temporal space abscess. <i>Chin J Med Today</i> 2003;3:71.	52, male	Toothache	Buccal region	Temporal space abscess	Recovery	Probably
Ma JF, Wang KK, Tian ZC. Acupuncture-induced infection in buttocks with extensive subcutaneous tissue necrosis. <i>Chin Pract J Rural Doctor</i> 1990;2:30–1.	45, male	Gluteal numbness	Gluteal region	Gluteal abscess	Recovery	Certainly
Chen YS, Gao L. Brain abscess after acupuncture in the head. <i>People's Mil Surg</i> 1995;4:58.	30, male	Insomnia, dizziness	Cephalic region	Abscess of scalp, intracranial abscess	Recovery	Certainly
Xu CZ. Intracranial infection caused by acupuncture. <i>Nei Mongol J Trad Chin Med</i> 1990;1:12.	19, male	Headache	Cephalic region	Abscess of scalp, intracranial abscess	Recovery	Certainly
Song QL, Wu TY. Three therapeutic acupuncture errors. <i>Clin Misdiag Mither</i> 2001;14:73.	38, male	Arthritis	EX-LE5	Suppurative arthritis	Recovery	Certainly
Zhou Z. Superficial tuberculous abscess caused by acupuncture in 3 cases. <i>Jiujiang Med J</i> 1999;1:47.	22–28, 1 male & 2 females	Psoatic strain	Lower back	Tuberculous abscess	Recovery	Probably
Liu CR. Acupuncture-induced tetanus. <i>Chin Pract J Rural Doctor</i> 1992;4:30.	52, female	Leg pain	–	Tetanus	Recovery	Probably
Liu GX. Acupuncture caused tetanus. <i>J Med Theor Pract</i> 1991;4:30.	52, female	Headache	Cephalic region	Tetanus	Recovery	Probably

^a All references in this table are in Chinese. The English-language paper and journal titles are free translations. The original Chinese-language titles can be obtained from the corresponding author.

^b Only cases of traditional needle acupuncture are included. This explains any discrepancy between the number of cases in this column and the title of the corresponding reference.

^c References¹⁰ and ¹¹.

Neck area

Six cases of injuries in the neck region were reported, including neural injuries (4), a false aneurysm of the carotid artery (1) and thyroid haemorrhage (1). One patient died after acupuncture at the Tiantu point (CV22); the needle had been inserted to a depth of 6 cm.

Eyes

Five articles reported injuries to the eyes, including orbital haemorrhage (3), traumatic cataract (1), injury of the oculomotor nerve (1) and retinal puncture (1). One case of optic atrophy accompanied by haemorrhage and traumatic cataract resulted in visual impairment.

The acupoints in the above cases were Jingming (SL1), Qiuhou (EX-HN7) and Chengqi (ST1). When needling acupoints in the area of the orbital cavity, bleeding is difficult to avoid, even for the experienced acupuncturist. Deep needling can also injure the oculomotor nerve, the retina and neighbouring tissues.

Peripheral nerves, vessels and other tissues

Three cases of haemorrhage were reported after acupuncture on the cheeks and the hypoglossis. One case of calf haematoma complicated by diabetic foot was caused by needling at the Tiaokou (ST38) and Chengshan (BL57) acupoints.

Four cases of peripheral motor nerve injuries and subsequent motor dysfunction were reported. Three children suffered adductor muscle fibrosis and adduction deformity of the thumb as a result of local vascular and muscular injuries from needling at the Hegu point (LI4).

The acupoints most frequently involved in the injuries were Taiyang (EX-HN5), Neiguan (PC6) and Hegu (LI4). Forceful needle manipulation at these points, which are quite superficial, can cause injury to peripheral nerves, capillaries and muscle fibres.

Needling site pain and broken needle

Four cases of pain at the needling site were reported in two articles. An intra-abdominal lump turned out to be caused by an acupuncture needle fragment that had broken off 15 years earlier.

Infectious events

Nine cases of bacterial infection and two cases of viral infection were reported.

Table 3. Acupuncture-related adverse events other than trauma and infection, as identified through a systematic review of the Chinese-language literature, 1980–2009

Reference ^a	Cases ^b (age in years and sex, or no. of cases)	Reason for acupuncture	Acupoint (code ^c or site)	Adverse event	Outcome	Caused by acupuncture?
Liu CB. Acupuncture-related syncope in 4 cases. <i>J Clin Acu Moxibustion</i> 2001;17:51.	34, 45 & 56, females	Low back pain; shoulder pain		Fainting	Recovery	Certainly
Liu YZ. Improper posture caused by acupuncture in 2 cases. <i>Lishizhen Med Materia Med Res</i> 2007;18:1756.	42, female	Shoulder pain	Shoulder site	Fainting	Recovery	Certainly
Shi GP, Chen ZM. Accidents caused by acupuncture in 3 cases. <i>J Clin Acu Moxibustion</i> 1994;10:38.	57, female	Stomach ache	–	Fainting	Recovery	Certainly
Xu GP, Yuan YM. First aid and care of 82 fainting episodes during acupuncture. <i>China Health care Innov</i> 2007;2:125.	82 cases	–	–	Fainting	Recovery	Certainly
You Y. Fainting during acupuncture in 60 flight personnel. <i>Chin J Misdiag</i> 2007;7:5668–9.	60 cases	–	–	Fainting	Recovery	Certainly
Zhang H, Sun S. Fainting during acupuncture and its management in 3 cases. <i>China Pract Med (Barc)</i> 2008;13:137–8.	35 & 45, males 30, female	Cervical spondylosis	Cervical site	Fainting	Recovery	Certainly
Kang YH. Stroke after acupuncture: first-aid care and lesson. <i>Jilin Med Inf</i> 1994;7:29.	72, female	Arm pain, rheumatoid arthritis	LI4, LI10, LI11, SJ3	Stroke	Recovery	Probably
Feng B, Huang YX. Adverse events after improper acupuncture. <i>J Clin Acu Moxibustion</i> 1996;12:42.	65, male	Stroke-related hemiplegia	GB20, CV23	Stroke	Recovery	Probably
Mi J. Recurrent cerebral haemorrhage caused by acupuncture. <i>Heliolongjiang J Trad Chin Med</i> 1993;2:34.	73, male	Sequela of cerebral haemorrhage	LI4, LI11, ST36, etc.	Cerebral haemorrhage	Death	Probably
Song QL, Wu TY. Three therapeutic acupuncture errors. <i>Clin Misdiag Misher</i> 2001;14:73.	58, male	Sequela of cerebral haemorrhage	KI1	Cerebral haemorrhage	Death	Probably
Zhou TQ, Zhang HY. Acupuncture-induced fatal haemorrhagic stroke. <i>Xinjiang J Trad Chin Med</i> 1985;4:24–5.	59, male	Sequela of stroke	EX-HN5, GV20, GB20	Cerebral haemorrhage	Death	Probably
Ma ZH. Acupuncture-induced cardiac arrest. <i>Hebei J Trad Chin Med</i> 2005;27:589.	28, male	Tic douloureux	EX-HN5, LI4, SJ5	Cardiac arrest	Recovery	Probably
Zhang CY, Zheng SM, Pei YF. Accidental injury to internal organs caused by improper acupuncture in 5 cases. <i>Heliolongjiang J Trad Chin Med</i> 1992;1:38.	39, male	Asthma	BL13	Shock	Recovery	Certainly
Wang L. Acupuncture-induced petit mal epilepsy. <i>Chin Acu Moxibustion</i> 2004;S1:96.	35, male	Cheiralgia	Painful spot	Pyknolepsy	Recovery	Probably
Gan ZZ. Acupuncture at Taiyang point caused severe orbital haemorrhage. <i>Chin J Ocular Trauma Occup Eye Dis</i> 2000;22:246.	46, female	Cold, headache	EX-HN5	Orbital haemorrhage	Recovery	Probably
Li JS. Acupuncture-induced fever. <i>Chin Acu Moxibustion</i> 2000;10:639.	52, male	Sequela of brain concussion	GV20, GB20, LI11, LI4, etc.	Fever	Recovery	Probably
Shang YT. Adverse events caused by acupuncture in 2 cases. <i>New J Trad Chin Med</i> 2006;38:76.	65, female	Facioptegia	GB14, LI4	Cough	Recovery	Probably
Wang SF, Lan YH. Acupuncture at Neiguan point caused sudden aphonia. <i>New Chin Med</i> 1980;11:587–8.	46, female	Obesity	ST25, SP15	Thirst	Recovery	Certainly
Li M. Acupuncture at Houxi point caused left lower extremity numbness. <i>J Shanxi Trad Chin Med Coll</i> 1994;1:37.	36, female 46, male	Hiccups	PC6	Aphonia	Recovery	Probably
Yang XH, Zhang GS. Long-term acupuncture at Guanyuan point caused sexual dysfunction in 2 men with obesity. <i>Chin J Hum Sex</i> 2009;18:19–20.	47, female	Sciatica	SI3	Leg numbness	–	Probably
	52, male 41, female	Simple obesity	CV4	Sexual dysfunction	Recovery	Probably

Reference ^a	Cases ^b (age in years and sex, or no. of cases)	Reason for acupuncture	Acupoint (code ^c or site)	Adverse event	Outcome	Caused by acupuncture?
Zhang RM. Misuse of acupuncture in 2 cases. <i>Jiangxi J Trad Chin Med</i> 1992;23:47.	20, male	Headache	KH	Spermatorrhea	Recovery	Probably
Lan XL, Du XH. Allergic skin rash induced by acupuncture. <i>J Yunyang Med Coll</i> 2004;23:378.	50, male	Cervical spondylosis	GB20, etc	Skin rash	Recovery	Certainly
Cheng C. Acupuncture caused widespread allergic erythema. <i>Jiangxi J Trad Chin Med</i> 1988;2:52.	11, female	Coxarthritits	BL57, BL40	Metal allergy	Recovery	Certainly
Guo YJ. Allergy to metal needles in 2 cases. <i>Chin Acu Moxibustion</i> 2006;26:307-8.	33 & 52, females	Abdominal pain	-	Metal allergy	Recovery	Certainly

^a All references in this table are in Chinese. The English-language paper and journal titles are free translations. The original Chinese-language titles can be obtained from the corresponding author.

^b Only cases of traditional needle acupuncture are included. This explains any discrepancy between the number of cases in this column and the title of the corresponding reference.

^c References ¹⁰ and ¹¹.

All patients recovered after appropriate treatment.

Infections were mainly due to poor sterilization of acupuncture needles. Acupoints on the head became infected most often, perhaps because hair makes it difficult to implement aseptic technique. Two cases of facial abscess may have been caused by acupuncture to relieve toothache.

Other adverse events

A total of 172 acupuncture-related adverse events that were neither due to trauma nor to infection were reported. Local allergic reactions occurred after acupuncture in four patients with an allergy to metal needles.

In our review, fainting was the most common adverse event associated with acupuncture, and it occurred primarily in patients receiving acupuncture for the first time. In total, 150 cases of fainting were reported. In one report of 82 cases, 60% (49) of the patients fainted during the first treatment. Of these 49 fainting spells, 83% occurred when acupuncture was being applied to the head or neck.

Stroke after acupuncture was reported in five patients (aged from 58 to 73 years). One case of stroke occurred in a 72-year-old woman who received acupuncture on her arm. The other four patients had a history of stroke and hypertension. Three patients died from cerebral haemorrhage that was considered to be causally related to the acupuncture.

Other adverse effects included cardiac arrest, pyknolesy (epileptiform attacks resembling petit mal), shock, fever, cough, thirst, aphonia, leg numbness and sexual dysfunction. However, the existence of a causal link between acupuncture and these adverse events is uncertain.

Discussion

Many types of acupuncture-related adverse events have been identified in the Chinese literature. Injuries and infections appear to be related to inappropriate technique, whereas other types of adverse events are not. Fainting is vasovagal in origin and minor bleeding is sometimes inevitable.

Infections result primarily from poor aseptic procedure and insufficient knowledge on the part of acupuncturists, who often disinfect reusable acupuncture needles with alcohol instead of sterilizing them. The use of disposable sterile

acupuncture needles and guide tubes is strongly recommended.¹²

Most traumatic events are caused by improper manipulation in high-risk acupoints. The depth of needle insertion is crucial. The lung surface is about 10 to 20 mm beneath the skin in the region of the medial scapular or midclavicular line.² This may explain the high incidence of pneumothorax during needling in this area. Other traumatic complications, such as subarachnoid haemorrhage, cardiovascular injuries or perforation of the gallbladder, can also be caused by excessively deep needle insertion.

The patient's condition also needs to be considered. Cardiovascular trauma occurred most frequently in patients with cardiomegaly. Patients with abdominal pain that has no clear diagnosis are at increased risk of trauma or infection from acupuncture at abdominal acupoints. Symptomatic treatment of abdominal pain with acupuncture can also delay effective therapy. During needling at peripheral acupoints on the legs, arms and face, manipulation should be carefully executed to avoid damaging nerves and blood vessels.

Some adverse events are inevitable but could be minimized through preventive measures. Fainting, which is a reflex caused by vagal excitation, is the most common adverse event during acupuncture.¹³ Its incidence can be reduced by preparing patients and positioning them properly; the patient should not be hungry or tired and should preferably be placed in the supine, lateral or prone position.

Of the 87 articles reporting traumatic events, 59 (70%) provided information about the acupuncturists. Of these 59 articles, 68% (40) indicated that the acupuncturists were practising in village clinics or rural hospitals when they performed the procedures that caused the traumatic events. All infections reported were caused by acupuncturists in rural areas. In China, acupuncturists in rural and urban hospitals have a great disparity in clinical skills. Acupuncturists practising in rural hospitals, township health centres or village clinics rarely receive formal education in medical colleges. It follows that training for the practice of acupuncture needs to be unified and improved.

Several serious adverse events were identified through a review of case reports,¹⁴ but very few were found in surveys⁷⁻⁹ or prospective observational

studies.^{5,6} This suggests that serious acupuncture-related adverse events are rare. Bleeding and pain during needling are reported less often in the Chinese-language than in the English-language literature, perhaps because practitioners in China consider such events too trivial to report. Infections (primarily hepatitis) after acupuncture are reported frequently in the English-language literature¹ but relatively rarely in the Chinese-language literature, even though non-disposable acupuncture needles are still used in China. It is possible that in China acupuncture-related infections are underreported.

Of the 87 articles reporting traumatic injuries, 72 (about 70%) were authored not by the acupuncturists themselves, but by the physicians who treated the adverse events. None of the articles reporting infections were authored by the acupuncturists, as opposed to 16 of the 20 (80%) reports of adverse events other than trauma or infection. Again, we suspect that under-

reporting of such events in the Chinese-language literature is much higher than in the English-language literature.

Our review has several limitations. Although our search strategy was comprehensive, we cannot guarantee that all relevant articles were identified. Many of the reports lacked detail, so that cause-effect relationships are often uncertain. In the absence of a denominator (i.e. the total number of acupuncture treatments practised over the study period), the reported adverse events do not lend themselves to generating incidence figures. There are 2688 hospitals of traditional Chinese medicine in China.¹⁵ If we assume, for instance, that each hospital receives 50 to 100 visits for acupuncture per day (a conservative figure), the annual number of acupuncture treatments would total from 50 to 100 million. This would suggest that the incidence of acupuncture-related adverse events is negligible. However, the true incidence remains unknown and can-

not be accurately estimated. Collectively these factors limit the conclusiveness of our findings.

Conclusion

Various types of acupuncture-related adverse events have been reported in China. Similar events have been reported by other countries,¹⁻⁹ usually as a result of inappropriate technique. Acupuncture can be considered inherently safe in the hands of well trained practitioners. However, there is a need to find effective ways to improve the practice of acupuncture and to monitor and minimize the health risks involved. ■

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Competing interests: None declared.

ملخص

الآثار الضائرة المرتبطة بالوخز الإبري: مراجعة نظامية للأدبيات الصينية

الضائرة بعد استخدام الوخز الإبري، وتوفي 14 مريضاً. ولقد صنفت الآثار الضائرة المرتبطة بالوخز الإبري إلى ثلاث فئات: رضحي، ومعد، وأخرى. وكانت أكثر الآثار الضائرة تكراراً على الإطلاق استرواح الصدر، والإغماء، والنزف تحت العنكبوتية، والعدوى، بينما كانت الآثار الأكثر تفاقماً هي تلك التي ارتبطت بالإصابات القلبية الوعائية، والنزف تحت العنكبوتية، واسترواح الصدر، وتكرار النزف الدماغي.

الاستنتاج احتوت الأدبيات الصينية المنشورة على العديد من الأحداث الخاصة بالآثار الضائرة المرتبطة بالوخز الإبري، وكان أكثرها يعود إلى استخدام التقنية الخاطئة. ومن ثم، يتوجب بذل الجهود من أجل إيجاد طرق فعالة للمراقبة والرصد وتقليص المخاطر المرتبطة بالوخز الإبري.

الغرض مراجعة أدبيات اللغة الصينية حول الآثار الضائرة المرتبطة بالوخز الإبري مراجعة نظامية

الطريقة قام الباحثون بالبحث في ثلاث قواعد بيانات صينية وهي (قاعدة بيانات الأدبيات الطبية البيولوجية الصينية، 1980-2009؛ وقاعدة بيانات النصوص الكاملة للمجلات الصينية، 1980-2009؛ وقاعدة بيانات جريدة ويبو 1989، 2009-Weipu)، من أجل تحديد المقالات الواردة فيها باللغة الصينية حول سلامة الوخز الإبري التقليدي. ولقد تضمن البحث تقارير حالة، وسلسلة للحالات، مع مسوحات وسائر الدراسات القائمة على المراقبة، حال احتوائها على معطيات واقعية، وقد استبعدت مقالات المراجعة، والمقالات المترجمة والتجارب السريرية.

المجودات لبت 115 مقالة معايير الإدراج في الدراسة (98 تقارير حالة، و17 سلسلة من الحالات) واشتملت على إجمالي 479 حالة تعرضت للآثار

Resumé

Événements indésirables liés à l'acupuncture: une évaluation systématique de la documentation chinoise

Objectif Évaluer systématiquement la documentation en langue chinoise sur les événements indésirables liés à l'acupuncture.

Méthodes Nous avons fait des recherches dans trois bases de données chinoises (la base de données sur la documentation biomédicale chinoise, 1980-2009, la base de données en texte intégral du Journal chinois, 1980-2009 et la base de données de la revue Weipu, 1989-2009) afin d'identifier les articles en langue chinoise qui abordent le thème de la sécurité de l'acupuncture traditionnelle pratiquée avec des aiguilles. Les observations, les séries de cas, les enquêtes et d'autres études d'observation ont été prises en compte lorsqu'elles rapportaient des données factuelles, mais les articles, les traductions et les essais cliniques ont été exclus.

Résultats Les critères d'inclusion concernaient 115 articles (98 observations et 17 séries de cas) qui signalaient au total 479 cas

d'événements indésirables après acupuncture. Quatorze patients étaient décédés. Les événements indésirables liés à l'acupuncture étaient classés en trois catégories : traumatiques, infectieux et «autres». Les événements indésirables les plus fréquents étaient le pneumothorax, l'évanouissement, l'hémorragie méningée et l'infection, les plus graves étant les lésions cardiovasculaires, l'hémorragie méningée, le pneumothorax et l'hémorragie cérébrale récurrente.

Conclusion De nombreux événements indésirables liés à l'acupuncture, dont la majorité était due à une technique incorrecte, ont été décrits dans la documentation chinoise publiée. Des efforts sont indispensables afin de trouver des moyens efficaces de contrôler et de réduire les risques liés à l'acupuncture.

Resumen

Acontecimientos adversos relacionados con la acupuntura: revisión sistemática de la bibliografía china

Objetivo Realizar una revisión sistemática de la bibliografía en chino sobre los acontecimientos adversos relacionados con la acupuntura.

Métodos Se realizaron búsquedas en tres bases de datos chinas (*Biomedical Literature Database*, 1980–2009; *Chinese Journal Full-Text Database*, 1980–2009 y *Weipu Journal Database*, 1989–2009) con el fin de identificar los artículos en lengua china sobre la seguridad de la acupuntura tradicional con agujas. Se incluyeron casos clínicos, series de casos, encuestas y otros estudios de observación que presentaran datos documentados, pero se excluyeron los artículos de revisión, las traducciones y los ensayos clínicos.

Resultados Los criterios de inclusión se cumplieron en 115 artículos (98 casos clínicos y 17 series de casos) que, en total, informaron sobre

479 casos de efectos adversos tras la acupuntura. Catorce pacientes fallecieron. Los acontecimientos adversos relacionados con la acupuntura fueron clasificados en tres categorías: traumáticos, infecciosos y «otros». Los acontecimientos adversos más frecuentes fueron: neumotórax, desmayo, hemorragia subaracnoidea e infección; mientras que los más graves fueron: lesiones cardiovasculares, hemorragia subaracnoidea, neumotórax y hemorragia cerebral recurrente.

Conclusión En la bibliografía china publicada se han descrito muchas reacciones adversas relacionadas con la acupuntura, debidas en su mayor parte a una técnica inadecuada. Debemos esforzarnos para encontrar formas eficaces de controlar y reducir al mínimo los riesgos relacionados con la acupuntura.

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Table 1. Traumatic events after acupuncture, as identified through a systematic review of the Chinese-language literature, 1980–2009

Body site and reference ^a	Adverse event (no. of cases ^b)	Acupoint (code ^c or site)	Outcome
Spinal cord and neighbouring tissues			
Bao LP, Gao CT. Subarachnoid haemorrhage after acupuncture at Fengchi and Yamen points in 3 cases. <i>Jilin Med J</i> 1983;4:45–6.	Subarachnoid haemorrhage (35 cases)	GB20, GV15, GV16, GV14, BL10	3 deaths; 32 recoveries
Bian F, Zhang XL, Tian SP. Acupuncture at Fengchi point caused subarachnoid haemorrhage. <i>J Zhangjiakou Med College</i> 1997;14:73.			
Chen YZ, Huang WC. Acupuncture at neck points caused subarachnoid haemorrhage. <i>Shanxi Trad Chin Med J</i> 1985;1:47–8.			
Chen MX. Acupuncture at Yamen point caused subarachnoid haemorrhage. <i>J Pract Int Med</i> 1987;7:355.			
Jiang TZ, Chen WD, Zhang B, et al. Subarachnoid haemorrhage in 2 cases after acupuncture at the nape. <i>J Anhui Trad Chin Med Coll</i> 1996;15:48.			
Li LF, Cong X, Jin QW. Acupuncture at Fengchi point caused subarachnoid haemorrhage. <i>Chin Acu Moxibustion</i> 2008;28:292.			
Liu SX. Acupuncture at Fengchi point caused subarachnoid haemorrhage. <i>Shanxi Med J</i> 1980;9:53.			
Liu ZH, Xiao HP, Liu JS, et al. Subarachnoid haemorrhage in 12 cases after acupuncture at nape. <i>People's Mil Surg</i> 1984;12:51–2.			
Liu FY. Acupuncture at Fengchi point caused subdural haematoma. <i>Med J Liaoning</i> 1992;6:25.			
Mi XH, Li SK, Jia SK. Acupuncture at Yamen point caused subarachnoid haemorrhage. <i>Shandong J Trad Chin Med</i> 1989;8:22.			
Niu LJ, Zhang RW. Acupuncture-induced haemorrhage in the cisterna magna. <i>Prac J Med Pharm</i> 2006;23:932.			
Su Y, Chen HX, Chen CC, et al. Acupuncture at Yamen point caused subarachnoid haemorrhage. <i>Shanghai J Acu Moxibustion</i> 1985;3:22.			
Wu BS, Xu QZ. One death from spinal cord injury after acupuncture at Ash acupoints in third cervical vertebra. <i>Chin J Forensic Med</i> 1990;5:32–3.			
Yang YD, Shi R, Ge SH. Subarachnoid haemorrhage caused by acupuncture. <i>Liaoning J Trad Chin Med</i> 1985;8:37.			
Yu BR. Acupuncture at nape points caused subarachnoid haemorrhage in 7 cases. <i>J Apoplexy Nerv Dis</i> 1986;3:74–5.			
Zhou JW. Acupuncture at Fengchi point caused one death. <i>J Sichuan Trad Chin Med</i> 1988;10:52.			
Li YQ, Chen GW. Acupuncture caused epidural haemorrhage in cervical spine. <i>Chin Comm Doctors</i> 2003;19:46–7.	Spinal epidural haematoma (9 cases)	–	9 recoveries
Liu FY. Acupuncture at Fengchi point caused subdural haematoma. <i>Med J Liaoning</i> 1992;6:25.			
Zhang J. Diagnosis and treatment of spinal epidural haematoma caused by acupuncture. <i>Mod Med Health</i> 2006;22:2924–5.			
Abdominal organs and tissues			
Zhang JH. Acupuncture at abdominal acupoints caused 4 cases of peritonitis. <i>Chin Rural Doctor</i> 1997;4:20–1.	Peritonitis (2 cases)	–	Recovery
Zheng BS, Zhao ML. Lessons from 2 cases of gallbladder perforation complicated with bile peritonitis caused by acupuncture. <i>Chin J Clin</i> 1983;3:44.			
Wu DP, He RL. Gallbladder perforation complicated with bile peritonitis, 2 cases caused by acupuncture. <i>Shanxi J Trad Chin Med</i> 1981;5:1:44.			
Bai XF. Acupuncture-induced gallbladder perforation with bile peritonitis. <i>Inner Mongolia Med J</i> 1991;11:80.	Perforated gallbladder (7 cases, 5 with peritonitis)	ST25, CV12	Recovery
Liu JC, Liu HY. Gallbladder perforation, 2 cases caused by acupuncture. <i>Chin J Bases Clin Gen Surg</i> 2001;8:226.	Intestinal perforation (5 cases, all with peritonitis)	–	Recovery
Duan QL, Wang SR. Severe complications caused by acupuncture in 3 cases. <i>Hebei J Trad Chin Med</i> 1984;1:36–7.			
Wang MY. Serious consequences of acupuncture at abdominal acupoints in 2 cases. <i>People's Mil Surg</i> 1985;6:61–2.			
Zhang JH. Acupuncture at abdominal acupoints caused 2 cases of peritonitis. <i>Chin Rural Doctor</i> 1997;4:20–1.			
Xiao XT. Gastric perforation caused by acupuncture. <i>Chin J Clin</i> 1985;1:9.	Gastric perforation (1 case, with peritonitis)	CV12	Recovery
Liu WG, Duan LJ, Sun DT. Acupuncture at Tianshu point caused intestinal obstruction. <i>Chin J Int Trad West Med</i> 1992;3:147.	Intestinal wall haematoma with obstruction (1 case)	ST25	Recovery

Body site and reference ^a	Adverse event (no. of cases ^b)	Acupoint (code ^c or site)	Outcome
Thoracic organs and tissues			
Chang JY. Acupuncture at back acupoints caused haemopneumothorax. <i>Hebei J Trad Chin Med</i> 1984;3:48.	Pneumothorax (201 cases)	GB21, BL13, BL18, BL23, LI17, ST12, CV22, CV15, CV14, SI9, SI13	4 deaths; 197 recoveries
Ding WY. Acupuncture at chest and back points caused 10 cases of traumatic pneumothorax. <i>Central Plains Med J</i> 1986;4:39.			
Du JY. Report of 10 cases of pneumothorax caused by acupuncture. <i>Central Plains Med J</i> 1981;2:22.			
Duan QL, Wang SR. Lessons from 3 cases of severe complications of acupuncture. Hebei J Trad Chin Med 1984;1:36–7.			
Gao GG. Two cases of bilateral pneumothorax caused by acupuncture. <i>J Pract Med</i> 1984;3:38–9.			
Hu DR. Traumatic pneumothorax caused by acupuncture in 7 cases. <i>Jiangxi J Trad Chin Med</i> 1981;4:29–30.			
Hu QX, Zhang HY. Acupuncture caused 9 cases of traumatic pneumothorax. <i>Clin Med (Northfield, IL)</i> 1987;7:331–3.			
Hu YA. Acupuncture at chest acupoints caused 13 cases of pneumothorax: X-ray diagnosis and analysis. <i>Nei Mongol J Trad Chin Med</i> 1995;S1:51.			
Jiang DG. Acupuncture at Jiwei point caused pneumothorax. <i>Chongqi Med J</i> 1980;6:47.			
Jim BR. Acupuncture at Qiyuan point caused pneumothorax. <i>Shanghai J Acu Moxibustion</i> 1987;3:45.			
Jin PL. Acupuncture-related accidents and their prevention. <i>Chin J Pract Chin Mod Med</i> 2005;8:765.			
Li YC. Clinical analysis of 25 cases of acupuncture-induced pneumothorax. <i>Chin Comm Doctors</i> 1995;12:37–8.			
Li YY, Cheng XL. One case of pneumothorax caused by acupuncture. <i>J Handan Med Coll</i> 1997;10:72–3.			
Liu LY. One case of haemopneumothorax caused by acupuncture. <i>J Changchun Univ Trad Chin Med</i> 2007;23:58.			
Lu B, Tian XH. One case of traumatic tension pneumothorax caused by excessively deep acupuncture. <i>Guizhou Med J</i> 1993;17:125.			
Ma WT. Analyses of 14 cases of traumatic pneumothorax induced by acupuncture. <i>Anhui Med J</i> 1993;14:41.			
Ma L, Zhang CJ. Clinical analysis of acupuncture-induced pneumothorax. <i>J Clin Acu Moxibustion</i> 1997;13:40.			
Ma BZ. Acupuncture-induced traumatic pneumothorax in one case. <i>Qinghai Med J</i> 2007;37:41.			
Ou Q, Ji JC. Acupuncture at shoulder acupoints caused 5 cases of pneumothorax. <i>J Trad Chin Orthop Traumatol</i> 1997;9:54.			
Qin MX, Ao WH. Improper acupuncture caused pneumothorax. <i>Clin Misdiag Misther</i> 2003;16:76.			
Ruan KY, Qi KJ, Mou ZC. Acupuncture at points in supraclavicular fossa caused hydropneumothorax. <i>New J Trad Chin Med</i> 1992;4:33.			
Shi YK. Lessons from 38 cases of pneumothorax caused by acupuncture. <i>People's Mil Surg</i> 1980;10:53.			
Song BZ, Xu JS. One case haemopneumothorax caused by acupuncture at left Jianjin point. <i>J Anhui Trad Chin Med Coll</i> 1987;6:45.			
Song QL, Wu TY. Three therapeutic errors of acupuncture. <i>Clin Misdiag Misther</i> 2001;14:73.			
Wang DS. Acupuncture at epigastrium caused pleural effusion. <i>People's Mil Surg</i> 1982;10:73.			
Wang YL. One death from pneumothorax caused by acupuncture at bilateral Tianding points. <i>J Forensic Med</i> 1999;15:47–8.			
Xia C. Treating acupuncture-induced accidents. <i>J Clin Acu Moxibustion</i> 1993;2:75–6.			
Yan ZC. Acupuncture at Tiantu point caused severe pneumothorax. <i>New Chin Med</i> 1985;16:655.			
Zha CH. Identification of haemopneumothorax after acupuncture from piercing of the left lung. <i>Chin J Forensic Med</i> 2006;21:75–6.			
Zhang SP. Acupuncture caused haemopneumothorax. <i>Shanghai J Acu Moxibustion</i> 1986;4:21.			
Zhang CY, Zheng SM, Pei YF. Five cases of accidental injury of internal organs caused by improper acupuncture. <i>Heilongjiang J Trad Chin Med</i> 1992;1:38.			
Zhao DY, Zhang GL. Clinical analysis of 38 cases of pneumothorax induced by acupuncture or injection at acupoint. <i>Chin Acu Moxibustion</i> 2009;29:239–42.			
Zheng PD, Pang SH. Acupuncture caused severe haemopneumothorax. <i>J Trad Chin Med</i> 1983;5:32.			
Zhu ZH, Shen H. Accidental pneumothorax caused by acupuncture therapy. <i>Int J Emerg Crit Care Med</i> 2005;2:992–5.			
Zong WJ. Pneumothorax caused by acupuncture in 5 cases. <i>Shanghai J Acu Moxibustion</i> 1984;1:24.			
Yang ST. Acupuncture at Feishu point caused chylothorax. <i>J Clin Acu Moxibustion</i> 1991;4:19.			
Huo SH, Tian YP, Ma QL, et al. Acupuncture caused cardiac injury with pneumothorax. <i>Chin J Crit Care Med</i> 2007;27:908.			
Luo YZ, Dong L, Yuan HS, et al. Acupuncture caused pulsus tardus and cardiac tamponade. <i>Chin J Clin Thorac Cardiovasc Surg</i> 2006;13:343.			
Zhu WT, Li XS, Zhang YT, et al. Acupuncture caused death from cardiac rupture. <i>J Forensic Med</i> 2008;24:312.			
Xie JZ, Lin WZ. Acupuncture causes death from cardiac injury. <i>Chin J Integr Trad West Med Int Crit Care</i> 2003;1:51.			
Zhu J. Acupuncture at Qimen point induced death from aortic haemorrhage. <i>Shanghai J Acu Moxibustion</i> 1990;2:31.			
Gen JQ. Successful management of acupuncture-induced coronary artery injury with acute cardiac tamponade. <i>J Clin Cardiol</i> 2005;21:392.			
	Chylothorax (1 case) Right ventricular puncture (4 cases)	BL13 CV15, 2nd–3th ICR near sternal edge; precordial region; under right breast LR14 LU1	Recovery 2 deaths; 2 recoveries
	Aortic artery rupture (1 case) Coronary artery puncture with cardiac tamponade (1 case)		Death Recovery

Body site and reference ^a	Adverse event (no. of cases ^b)	Acupoint (code ^c or site)	Outcome
Neck area			
Zhu J. Acupuncture at Tiantu point caused one death. <i>Jiangsu J Trad Chin Med</i> 1986;2:28.	Injury of inferior laryngeal nerve and trachea (1 case)	CV22	Death
Gao LW. Acupuncture at Futu point caused dyspnoea. <i>Chin J Trad Chin Med Pharm</i> 1989;2:50.	Vocal cord paralysis; subcutaneous emphysema (1 case)	LI18	Recovery
Zhou LZ, Zhao DG, Peng L. Opinions regarding acupuncture-induced hoarseness. <i>Shanghai J Acu Moxibustion</i> 2005;27:27.	Hoarseness (1 case)	Nape area	Recovery
Yan BX. Acupuncture at brachial plexus caused phrenic nerve injury. <i>Shaanxi J Trad Chin Med</i> 1994;15:513.	Injury of phrenic nerve (1 case)	Bicong	Recovery
Cai XJ. Acupuncture caused thyroid capsule haemorrhage with asphyxia. <i>Med J Chin People's Liberation Army</i> 1991;6:494.	Thyroid haemorrhage; infection (1 case)	Neck area	Recovery
Chen SM. Acupuncture caused traumatic carotid artery aneurysm. <i>J Trad Chin Med</i> 1980;7:49.	False aneurysm of carotid artery (1 case)	Neck area	Recovery
Eye area			
Jin PL. A discussion of acupuncture-related accidents and their prevention. <i>Chin J Pract Chin Mod Med</i> 2005;8:765.	Orbital haemorrhage (3 cases)	SL1, EX-HN7	2 recoveries; 1 Visual impairment
Xu RZ. Acupuncture at Jingming point caused exophthalmos: prevention and countermeasures. <i>J Clin Acu Moxibustion</i> 2003;19:22.	Traumatic cataract (1 case)	Superciliary acupoints	Visual impairment
Yang G, Wang SL. Blindness caused by acupuncture. <i>Tianjin J Trad Chin Med</i> 1996;13:6.	Injury of oculomotor nerve (1 case)	ST1	Recovery
Yang G, Wang SL. Blindness caused by acupuncture. <i>Tianjin J Trad Chin Med</i> 1996;13:6.	Retinal injury (1 case)	Eyelid	Recovery
Xu LH, Liu AH. Oculomotor nerve injury caused by acupuncture. <i>Chin J Ocular Trauma Occup Eye Dis</i> 1997;19:226.	Leg, haemorrhage; diabetic foot (1 case)	ST38, BL57	–
Liu BS, Li ZX, Lei F. Acupuncture-induced retinal detachment. <i>Chin J Ocular Trauma Occup Eye Dis</i> 1988;1:43–4.	Cheeks, haematoma (1 case)	ST5	Recovery
Peripheral nerves and blood vessels			
Ding XY, Liu SY. Accident due to clinical acupuncture. <i>Chin Acu Moxibustion</i> 2008;28:817–8.	Hypoglossitis, haematoma (2 cases)	CV23	Recovery
Xia C. Treating acupuncture-induced accident. <i>J Clin Acu Moxibustion</i> 1993;2:75–6.	Adduction deformity of thumb (3 cases)	LI4	Recovery
Han LX. Acupuncture at Lianquan point caused sublingual fold haematoma. <i>Shanghai J Acu Moxibustion</i> 1994;13:107.	Inability to close eye (1 case)	EX-HN5	Recovery
Wang NR. Acupuncture at Lianquan point caused sublingual haematoma. <i>J Clin Acu Moxibustion</i> 1996;7:89.	Inability to shut mouth (1 case)	EX-HN5	Recovery
Ou LS, Liu DC, Tian LY, et al. Acupuncture at Hegu point caused thumb adduction deformity in 12 children. <i>J Anhui Trad Chin Med Coll</i> 1989;8:40.	Palmar muscle contracture (2 cases)	PC6	Recovery
Wang SF. Acupuncture at Taiyang point caused adverse reactions from improper manipulation in 2 cases. <i>Central Plains Med J</i> 1982;3:135.	Pain (4 cases)	SI3, LI11, hand acupoints	Recovery
Wang SF. Acupuncture at Taiyang point caused adverse reactions from improper manipulation in 2 cases. <i>Central Plains Med J</i> 1982;3:185.	Broken needle (1 case)	–	Recovery
Wang L. Acupuncture at Neiguan point induced hand muscle contracture. <i>Shanghai J Acu Moxibustion</i> 1991;2:45.			
Needling site			
Feng B, Huang YX. Adverse events caused by improper acupuncture. <i>J Clin Acu Moxibustion</i> 1996;12:42.			
Shi GP, Chen ZM. Analysis of 3 accidents caused by acupuncture. <i>J Clin Acu Moxibustion</i> 1994;10:38.			
Li SL, Cui XM. Fractured acupuncture needle caused intra-abdominal lump. <i>Shanghai J Acu Moxibustion</i> 1992;3:32.			

^a All references in this table are in Chinese. The English-language paper and journal titles are free translations. The original Chinese-language titles can be obtained from the corresponding author.

^b Only cases of traditional needle acupuncture are included. This explains any discrepancy between the number of cases in this column and the title of the corresponding reference.

^c References^{10,11}.