

**Supplementary Table 1.** The search strategies for the included studies

<b>PubMed</b>		
(“Case reports [Publication Type]”[Mesh] OR “Case study”[all fields] OR “Case studies”[all fields] OR “case history”[all fields] OR “case histories”[all fields] OR “case report”[all fields] OR “case reports”[all fields] OR “case series”[all fields] OR “clinical series”[all fields] OR “medical history”[all fields] OR “medical histories”[all fields]) AND (“Molar, Third”[Mesh] OR “Molar, Third”[all fields] OR “third molar”[all fields] OR “third molars”[all fields] OR “wisdom teeth”[all fields] OR “wisdom tooth”[all fields]) AND (“tooth extraction”[Mesh] OR “tooth extraction”[all fields] OR “teeth extraction”[all fields] OR “tooth removal”[all fields] OR “teeth removal”[all fields]) AND (“complication”[all fields] OR “complications”[all fields])		
<b>Embase</b>		
<b>Search ID</b>	<b>Search terms</b>	<b>No. of abstracts included</b>
#21	#7 AND #12 AND #17 AND #20	366
#20	#18 OR #19	3,078,150
#19	complications	1,114,711
#18	'complication'	2,559,906
#17	#13 OR #14 OR #15 OR #16	36,903
#16	teeth AND removal	5,300
#15	tooth AND removal	12,267
#14	'tooth extraction'	26,339
#13	'teeth extraction'	1,194
#12	#8 OR #9 OR #10 OR #11	11,808
#11	third AND molars	7,075
#10	wisdom AND teeth	1,064
#9	wisdom AND tooth	1,462
#8	'third molar'	6,219

#7	#1 OR #2 OR #3 OR #4 OR #5 OR #6	3,194,516
#6	'medical history'	164,831
#5	clinical AND series	428,414
#4	case AND series	192,263
#3	'case histories'	7,887
#2	'case study'	143,433
#1	'case report'/exp OR 'case report'	2,581,123

**Supplementary Table 2.** Summary of the patients with the life-threatening complications associated with third molar extractions

<b>Case No.</b>	<b>Sex</b>	<b>Age (yr)</b>	<b>History of disease</b>	<b>Complications</b>	<b>Reported main symptoms</b>
1	Male	45	Bilateral lung transplant and cervical fusion	Large retropharyngeal abscess	Severe neck and shoulder pain, limited range of motion, fever, and dysphonia
2	Female	32	Rheumatoid arthritis of hands, knees, and spine, pancytopenia	Severe and extensive facial infection in face and torso, osteomyelitis of mandible, and mucormycosis pneumonia	Facial pain, hyperthermia, and reddening of cheek with increasing swelling
3	Female	35	Pregnant	Acute meningoencephalitis, pterygoid muscle abscess, recurrent brain abscess	Severe headache, facial swelling, fever, tachycardia, and decline in consciousness
4	Female	28	Healthy (pregnant)	Abscess in the masticator and buccal spaces, sepsis	Facial pain and swelling, limitation of mouth opening, nausea, recurrent vomiting, rigor peripheral cyanosis, chest pain, septic shock
5	Male	21	Healthy	Subdural empyema, abscess in the pterygomandibular and submasseteric spaces, herpes zoster syndrome (Hunt syndrome)	Bell's palsy, vesicles on external auditory meatus, facial pain and swelling, vomiting, trismus, fever, severe frontal headache, drowsiness, hemiparesis, and focal seizures
6	Male	45	Cystic fibrosis, bilateral lung transplant, and spinal cord	Large abscess in retropharyngeal space	Severe neck and shoulder pain, limited range of motion in neck and arm, dysphonia, difficulty in speaking, and low-grade fever

			compression		
7	Male	37	Healthy	Occipital lobe abscess	Persisting and worsening headache (throbbing pain of the whole head), progressive worsening visual disturbances, photophobia, phonophobia, vertigo, chills, increased gait difficulties, and neck rigidity
8	Male	35	Class 1 obesity	Deep neck infection	Swelling and erythema of right buccal and submandibular regions and odynophagia
9	Male	41	Healthy	Pneumococcal meningitis and its cerebrovascular complications	Fever, arthralgias, confusion, neck rigidity, bilateral knee swelling, and lethargy
10	Male	53	Diabetes	Fulminant mucormycosis of maxillary sinuses	Headache, fever, blurred vision, severe pain and swelling in posterior maxilla with proptosis of globe and ophthalmoplegia, and severe tenderness in maxilla gum
11	Female	36	Uncontrolled diabetes	Fulminant mucormycosis of maxillary sinuses	Headache, blurred vision, swelling in posterior maxilla, nasal sanguineous discharge, and blackly nausea
12	Male	22	Healthy	Fulminating infection of neck involving deeper fascial spaces (Ludwig's angina)	Sore throat, pain on swallowing, fever, trismus, swelling in the floor of mouth and upper neck extending to bilateral submandibular regions, and a "hot potato" voice
13	Male	36	Healthy	Chronic cavernous sinus thrombophlebitis	Facial pain, fever, severe headache with diplopia, left sixth nerve palsy, nausea, vomiting, right eye ptosis and proptosis,

					bilateral ophthalmoplegia, conjunctival edema, and a dilated pupil
14	Female	25	Partial ornithine transcarbamylase deficiency and an embryonal sarcoma of the liver	Death due to bilateral brain abscess	Severe headache which did not respond to pain medications, multiple clinical seizures, pupils blown bilaterally, no brainstem reflexes, and died
15	Female	24	Healthy	Retropharyngeal abscess and acute mediastinitis	Throat pain, spitting pus that was dripping down her throat, cough, pain on inspiration, fever, and neck swelling
16	Female	28	Healthy	Abscess in submandibular and submental regions, Ludwig angina, descending necrotizing mediastinitis	A painful hard swelling in submandibular and submental region, and severe trismus with dysphagia
17	Male	49	Healthy	Abscess in submandibular space, jugulo-carotid space and upper mediastinum, descending necrotizing mediastinitis	Swelling in submandibular region, trismus, dysphagia, fever, dyspnoea, compressive pain in the midline of upper thorax
18	Female	23	Healthy	Mediastinitis with fistula formation to the left main bronchus	Fever, palpable painful swelling in the neck, trismus, and cough with production of purulent and foul-smelling secretion
19	Male	38	Healthy	Mediastinitis	Not reported
20	Male	23	Healthy	Lemierre syndrome and descending necrotizing mediastinitis	Increasing swelling in the mandible region, trismus, progressive dysphagia, fever, tachypnea with bilateral pleuritic

					chest pain, dyspnea, and coughing
21	Female	39	Healthy	Lemierre syndrome	Large swelling of submandibular cervical region with fever and pain, and headache on the occipital-parietal and temporal right side
22	Male	18	Healthy	Lemierre syndrome	Nausea, vomiting, swelling, pain and erythematous in submandibular cervical region, tachycardic, diffuse lower and upper abdominal pain, severe acute hypoxic respiratory failure, and septic shock with multiorgan failure
23	Female	47	Healthy	Severe hemorrhage resulting in significant anemia due to inferior alveolar artery injury	Constant blood oozing from the surgical breach, three episodes of significant hemorrhage, and swelling of cheek
24	Female	52	Extensive arteriovenous malformation of right tongue, floor of mouth, and lower lip	Severe hemorrhage due to an adjacent arteriovenous malformation	Massive hemorrhaging
25	Male	71	A history of taking aspirin, paludism, inguinal hernia, Dupuytren contracture	Severe hemorrhage	Swelling in cheek, active oral and nasal bleeding, dysphasia without dyspnoea
26	Male	32	Bulimia, depression, anxiety	Severe hemorrhage	Intraoral bleeding, bilateral submandibular swelling extended to the neck, vomiting blood, malaise, tachycardia, mild hypoxia,

					drowsiness, airway compromising due to expanding hematoma
27	Male	60	Healthy	Severe hemorrhage	Massive uncontrolled hemorrhage
28	Female	25	Healthy	Extensive subcutaneous emphysema, pneumomediastinum, pneumothorax, and pneumopericardium	A dull pain in epigastric region, retrosternal pain, mild dyspnea, fever, tachypnea, and tachycardia
29	Female	21	Healthy	Pneumomediastinum and subcutaneous emphysema	Severe central chest pain, shortness of breath, acute dyspnea, swelling on the face and neck, and crepitation in the tissues of infraorbital region, cheek, neck, supraclavicular, and anterior chest wall
30	Male	18	Healthy	Extensive subcutaneous emphysema, pneumomediastinum, and pneumorrhachis	Bilateral, progressive facial and neck swelling with crepitus on palpation over cheeks, neck, anterior chest wall, and upper back, and pain and difficulty in swallowing
31	Male	21	Obesity and bipolar disorder	Diffuse subcutaneous emphysema and pneumomediastinum	Facial swelling, tightness in throat, difficulty swallowing, shortness of breathing, vomiting, extreme dyspnea, and weakness
32	Male	74	Liver cirrhosis	Asphyxia death related to post-extraction hematoma	Orofacial pain, difficulty in eating, dyspnea, and unconsciousness
33	Male	71	Advanced micronodular cirrhosis	Asphyxia death related to post-extraction hematoma	Swelling in the floor of mouth, dysphagia, dyspnea, and pain around sublingual and buccal region

34	Female	25	Healthy	Pseudoaneurysm of facial artery with surrounding hematoma	A growing, pulsating swelling of floor of mouth, dysphagia, severe respiratory restriction, lingual anesthesia
35	Female	32	Healthy	Inferior alveolar artery pseudoaneurysm	Six different episodes of uncontrolled profuse pulsatile bleeding from the extraction site
36	Male	24	Healthy	Traumatic pseudoaneurysm of internal maxillary artery	Spontaneous fresh bleeding from nostril
37	Female	24	Grand-mal epilepsy	Fatal disseminated intravascular coagulation	A grand mal seizure progressing to status epilepticus, hyperpyrexia, sinus tachycardia, acute and profound hypotension, septicaemic shock, intraoral bleeding, severe gastrointestinal bleeding, severe epistaxis, and acute tubular and renal cortical necrosis



**Supplementary Table 3.** Summary of the patients with permanent impact caused by the complications associated with third molar extractions

Case No.	Sex	Age (yr)	History of disease	Complications	Persistent impact
1	Female	32	Healthy	Iatrogenic lingual nerve injury due to the right mandibular third molar extraction	Persistent neuropathic pain in the tongue
2	Male	57	Healthy	Iatrogenic lingual nerve injury due to the mandibular third molar extraction	Persistent numbness of the tongue
3	Female	22	Polycystic ovarian syndrome	Iatrogenic injury of lingual nerve and adjacent styloglossus muscle due to the left mandibular third molar extraction	Persistent numbness in tongue and gum, taste impairment, dysarthric speech, pain radiating from the angle of the jaw towards the ear on chewing food
4	Male	21	Healthy	Iatrogenic lingual nerve injury due to the right mandibular third molar extraction	Persistent sensory disturbance of tongue
5	Female	21	Healthy	Iatrogenic lingual nerve injury due to the right mandibular third molar extraction	Persistent sensory disturbance of tongue
6	Female	55	Healthy	Traumatic changes of the inferior alveolar nerve and gasserian ganglion after extraction of left mandibular third molar	Persistent severe pain and hyperesthesia in the lower lip. The patient committed suicide eventually.
7	Female	32	Rheumatoid	Severe and extensive facial	Partial lobectomy on both sides of lungs,

			arthritis	infection, osteomyelitis of mandible, and mucormycosis pneumonia after mandibular third molar extraction	and plastic correction of the left cheek
8	Female	35	Healthy (pregnant)	Brain abscess after the extraction of infected left maxillary third molar tooth	Persistent neurologic deficits, including Broca's aphasia and apraxia with right hemiplegia
9	Male	21	Healthy	Orbital abscess after extraction of left maxillary third molar	Persistent residual loss of vision on the left eye
10	Male	37	Healthy	Occipital lobe abscess	Persistent visual field defect of both eyes
11	Female	36	Healthy	Myositis ossificans traumatic of medial pterygoid muscle	Persistent limitation of mouth opening. Resection of a large area of the ramus and removal of the entire medial pterygoid muscle
12	Female	18	Congenital heart defect and hepatitis C	Myositis ossificans of the right medial pterygoid and temporalis muscles	Persistent limitation of mouth opening. Right coronoidectomy, excision of the ossified temporalis muscle, stripping the medial pterygoid attachment from the inferior border of the mandible, resection of lingual surface of the mandible distal to second molars, separate and removal of the ossified medial pterygoid muscle from pterygoid plate, and disarticulation of the right condyle with the resection extending to the distal of the second molar.
13	Female	30	Healthy	Myositis ossificans traumatica of medial pterygoid muscle	Persistent limitation of mouth opening

14	Female	48	Healthy	Iatrogenic displacement of roots of the mandibular third molar into submandibular space	Persistent numbness of tongue, intense pain, burning tongue, and taste impairment
15	Female	33	Healthy	Late mandibular fracture due to right mandibular third molar extraction	Persistent reduced sensitivity of lower lip
16	Female	78	Healthy	Temporal giant cell arteritis after maxillary right third molar extraction	Persistent bilateral blindness
17	Female	18	Seizure disorder	Bilateral idiopathic sensorineural hearing loss	Persistent cochlear hearing loss for the mid-frequency sounds (1,000-3,000 Hz region)
18	Male	30	Tremor and depression	Sensorineural hearing loss after extraction of four third molars and the lower first molars	Persistent significant hearing loss in the left ear
19	Male	21	Healthy	Nonfatal cerebral air embolism after extraction of mandibular third molars	Persistent moderate impairment of short-term memory
20	Female	51	Arterial hypertension	Branch retinal artery occlusion	Persistent visual loss of the left eye