

RESEARCH RESULTS FOR

Oropharyngolaryngeal manifestations of Kaposi's sarcoma with airway obstruction and its management in patients with HIV/AIDS

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Table S1 – Queries used in each database.

| Database | Queries |
|------------------|---|
| Scopus | (TITLE-ABS-KEY (oral) OR TITLE-ABS-KEY (oropharynx*) OR TITLE-ABS-KEY (larynx*) OR TITLE-ABS-KEY (pharynx*)) AND (TITLE-ABS-KEY (kaposi's AND sarcoma) OR TITLE-ABS-KEY (kaposi AND sarcoma)) AND (TITLE-ABS-KEY (hiv) OR TITLE-ABS-KEY (aids) OR TITLE-ABS-KEY (hiv-positive) OR TITLE-ABS-KEY (hiv AND positive) OR TITLE-ABS-KEY (hiv positive)) AND (TITLE-ABS-KEY (airway) OR TITLE-ABS-KEY (airway OR obstruction)) AND NOT (TITLE-ABS-KEY (hiv-negative) OR TITLE-ABS-KEY (hiv AND negative)) |
| PubMed | (oral OR oropharynx* OR larynx* OR pharynx*) AND (kaposi's sarcoma OR kaposi sarcoma) AND (hiv OR aids OR hiv-positive OR hiv positive) AND (airway OR airway obstruction) NOT (hiv-negative OR hiv negative) (("mouth"[MeSH Terms] OR "mouth"[All Fields] OR "oral"[All Fields] OR "oropharynx"[All Fields] OR "larynx"[All Fields] OR "pharynx"[All Fields]) AND ("sarcoma, kaposi"[MeSH Terms] OR ("sarcoma"[All Fields] AND "kaposi"[All Fields]) OR "kaposi sarcoma"[All Fields] OR ("kaposi s"[All Fields] AND "sarcoma"[All Fields]) OR "kaposi s sarcoma"[All Fields] OR ("sarcoma, kaposi"[MeSH Terms] OR ("sarcoma"[All Fields] AND "kaposi"[All Fields]) OR "kaposi sarcoma"[All Fields] OR ("kaposi"[All Fields] AND "sarcoma"[All Fields]))) AND ("hiv"[MeSH Terms] OR "hiv"[All Fields] OR ("acquired immunodeficiency syndrome"[MeSH Terms] OR ("acquired"[All Fields] AND "immunodeficiency"[All Fields] AND "syndrome"[All Fields]) OR "acquired immunodeficiency syndrome"[All Fields] OR "aids"[All Fields] OR ("hiv seropositivity"[MeSH Terms] OR ("hiv"[All Fields] AND "seropositivity"[All Fields]) OR "hiv seropositivity"[All Fields] OR ("hiv"[All Fields] AND "positive"[All Fields]) OR "hiv positive"[All Fields]) OR ("hiv seropositivity"[MeSH Terms] OR ("hiv"[All Fields] AND "seropositivity"[All Fields]) OR "hiv seropositivity"[All Fields] OR ("hiv"[All Fields] AND "positive"[All Fields]) OR "hiv positive"[All Fields])) AND ("airway"[All Fields] OR "airway s"[All Fields] OR "airways"[All Fields] OR ("airway obstruction"[MeSH Terms] OR ("airway"[All Fields] AND "obstruction"[All Fields]) OR "airway obstruction"[All Fields])) NOT ("hiv-negative"[All Fields] OR ("hiv"[MeSH Terms] OR "hiv"[All Fields]) AND ("negative"[All Fields] OR "negatively"[All Fields] OR "negatives"[All Fields] OR "negativities"[All Fields] OR "negativity"[All Fields])) |
| Web of Science | All Field: (oral OR oropharynx* OR larynx* OR pharynx*) AND (kaposi* sarcoma) AND (hiv OR aids OR hiv-positive OR hiv positive) AND (airway OR airway obstruction) |
| Cochrane Library | #1 Title Abstract Keywords: (oral OR oropharynx OR larynx OR pharynx) AND (Kaposi's sarcoma) AND (HIV OR AIDS) AND (airway) #2 Title Abstract Keywords: (oropharyngeal OR laryngeal OR pharyngeal) AND (Kaposi's sarcoma) AND (HIV OR AIDS) AND (airway OR airway obstruction) #3 Title Abstract Keywords: (oral OR oropharynx OR oropharyngeal OR larynx OR laryngeal OR pharynx OR pharyngeal) AND (Kaposi's sarcoma OR Kaposi sarcoma) AND (HIV OR AIDS) |

Table S2 – Characteristics of included studies.

| Study | Country | Study design | Case | Sex | Age | HIV/AIDS status | Kaposi's sarcoma's sites | Symptoms | Clinical presentation | Treatment/management | Clinical outcomes |
|------------------|---------|--------------|------|-----|---------|-----------------|--|--|--|---|---|
| Patow et al. | USA | Case report | 1 | M | 38 y.o. | AIDS | Hard and soft palate, tonsils, base of tongue, nasopharynx, posterior oropharynx, epiglottis, false vocal cords. | Choking sensation, inability to swallow solid or liquid food, pain, foul odor, spontaneous bleeding, hoarseness. | Clinical: massive necrotic tumor on the hard palate, extending to the soft palate bilaterally, necrosis on the right and left tonsils, necrotic tumor on the base of the tongue, tumor extending to the nasopharynx, posterior oropharynx, epiglottis, and false vocal cords, 5 mm lesion in 2-3 mm below the vocal cords, all of which have the potential for airway obstruction. | Increased steroid dose to avoid airway obstruction, 7 fraction radiation therapy with a total of 1,400 rad, chemotherapy (bleomycin, doxorubicin, dacarbazine, vinblastine, dactinomycin, and vincristine). | Died after 2 months with final complaints of severe dehydration, abdominal pain and bloody diarrhea. The autopsy results showed severe and extensive KS in the gastrointestinal tract and KS in the skin, lungs, liver, lymph nodes, diaphragm, testicles, gallbladder and heart. |
| Rothstein et al. | USA | Case report | 1 | M | 34 y.o. | HIV | Supraglottis | Dysphagia, shortness of breath, upper respiratory tract infection, hoarseness, moderate stridor. | Clinical: purplish mass from the right side of the epiglottis to the aryepiglottic folds, bilateral cervical lymphadenopathy. | Tracheotomy, removal of the mass using microdissection and cauterization techniques. | Recovered from KS but died 4 months later due to complications from pneumocystic pneumonia. |
| Roy et al. | USA | Case report | 1 | M | 24 y.o. | AIDS | Tongue, below the epiglottis. | Respiratory disturbances, inspiratory and expiratory stridor. | Clinical: large, purplish mass under the epiglottis and extending to the vocal cords. | Emergency tracheostomy, biopsy. | Died after 36 hours of tracheostomy procedure due to cardio-respiratory arrest. |
| Tami & Sharma | USA | Case report | 1 | M | 35 y.o. | AIDS | Epiglottis | Dysphagia and | Clinical: purplish mass in the | Tracheotomy, intralesional | Died 3 months later without |

| Study | Country | Study design | Case | Sex | Age | HIV/AIDS status | Kaposi's sarcoma's sites | Symptoms | Clinical presentation | Treatment/management | Clinical outcomes |
|-------------------|---------|---------------|------|--------|----------------------------|--|---|---|--|--|--|
| | | | | | | | | hoarseness for 6 weeks, stridor, intermittent airway obstruction. | epiglottis and extends to the endolarynx which almost covers the entire airway. | injection with 0.2 mg/mL vinblastine sulphate solution or a total of 3 cm ³ . | knowing the exact cause, no post-mortem examination was carried out. |
| Beitler et al. | USA | Case report | 1 | F | 45 y.o. | AIDS | Subglottis | Respiratory disturbances, stridor, hoarseness. | Clinical: lesion on the left vocal cord, lesion in the subglottis which closes about 50% of the airway. | Tracheostomy, biopsy, evaluated for radiotherapy. | Not reported |
| Mochloulis et al. | UK | Retrospective | 17 | M (17) | 27-56 y.o. (Mean: 35 y.o.) | Advanced stage HIV, long suffering 2-9 years (mean: 5 years) | Supraglottis (8) Supraglottis + glottis (3) Glottis (3) Glottis + subglottis (2) Subglottis (1) | Upper airway obstruction, dyspnea, cough, fever, dysphagia, hoarseness, hemoptysis. | Clinical: KS lesion was seen in the larynx. | Biopsy (1), tracheostomy (2), radiotherapy with a dose of 900 Gy in 6 fractions (5), chemotherapy (vincristine 2 mg and bleomycin 30 IU) (10). | Died due to advanced HIV infection with details of 1 patient surviving 71 weeks, the rest surviving between 1-44 weeks (median: 16 weeks). |
| Belda et al. | Spain | Case report | 1 | M | 29 y.o. | HIV | Below the cord, subglottic circumference and proximal trachea. | Dyspnea, cough, stridor, upper airway obstruction. | Clinical: Purplish bloody mass under the cord and subglottic rim and proximal trachea. | ND-YAG laser resection, laryngotracheal radiation (total dose 30 Gy), without tracheostomy. | Healed asymptotically after 9 months after resection. |
| Tami et al. | USA | Case report | 1 | M | 35 y.o. | HIV | Supraglottis | Dysphagia, stridor, shortness of breath. | Clinical: purplish mass on the left side of the epiglottis and the right aryepiglottic fold. The endolarynx and glottis are covered by the mass. | Tracheotomy, low dose external beam irradiation, biopsy. | Healed. |
| Miner & Egan | USA | Case report | 1 | M | 29 y.o. | Advanced stage of AIDS | Supraglottis | Vital signs were stable, sore throat, | Clinical: KS lesions in the soft palate and | Surgery, radiation therapy, and chemotherapy | Died from AIDS-related complications. |

| Study | Country | Study design | Case | Sex | Age | HIV/AIDS status | Kaposi's sarcoma's sites | Symptoms | Clinical presentation | Treatment/management | Clinical outcomes |
|----------------|---------|--------------|------|-----|---------|--|--------------------------|---|--|---|--|
| | | | | | | | | dysphagia, and hoarseness. | supraglottis, the lesions are obstructive. CT scan: a mass appears in the pharyngeal mucosa involving several locations such as the tonsils, epiglottis, piriform sinus, pre-epiglottis, paralarynx, midline of the intraluminal space. | (vincristine and bleomycin). | |
| Alkhuja et al. | USA | Case report | 1 | F | 32 y.o. | HIV Undergoing HAART CD4: 40/mm ³ | Supraglottis | SpO2: 87%, severe shortness of breath, inspiratory stridor. | Clinical: purplish mass, obscuring visualization of the vocal cords. | Initial treatment (trimethoprim/ sulfamethoxazole, ceftriaxone, erythromycin, and prednisone), 100% fractional inspired oxygen, emergency tracheostomy, biopsy, polyethylene glycol (PEG)-conjugated liposomal doxorubicin. | Died 3 weeks later of massive hemoptysis and cardiac arrest. |
| Watson et al. | USA | Case report | 1 | M | 40 y.o. | HIV | Supraglottis | Progressive hoarseness, shortness of breath. | Clinical: 2.5x1.5x1.5 cm purple mass that almost blocked the supraglottis. HPA: proliferating endothelial cells, fibroblasts, vascular gaps, and | Tracheotomy, dissection, ART, low dose external laryngeal beam radiation | Not reported |

| Study | Country | Study design | Case | Sex | Age | HIV/AIDS status | Kaposi's sarcoma's sites | Symptoms | Clinical presentation | Treatment/management | Clinical outcomes |
|-------------------|-------------|--------------|------|-----|---------|---|--|--|---|---|--|
| | | | | | | | | | erythrocyte extravasation. | | |
| Ares & Allal | Switzerland | Case report | 1 | M | 43 y.o. | AIDS clinical stage 4 CD4: 60/ μ L Viral load: 24.700 copies/mL | Retrocervical lymph nodes and supraglottis | Enlarged lymph nodes | Clinical: enlargement of laterocervical lymph nodes, red-purple mass, almost completely covering the airway. HPA: proliferation of endothelial cells, phyroblasts, thin vascular gaps, and extravasated erythrocytes. CT scan: an enlarged right retrocervical lymph node and a mass in the larynx were seen. | HAART (stavudine, didanosine, and nelfinavir), tracheotomy, and palliative radiotherapy with a dose of 30 Gy in 12 fractions, therapy for radiotherapy-related mucositis (bicarbonate mouthwash and paracetamol). | Recovered with CD4 and viral loads within normal limits and without other AIDS-related conditions. |
| Papagatsia et al. | UK | Case report | 1 | M | 3 y.o. | HIV CD4: 3/ mm^3 Viral load: 500.000 copies/ μ L | Hard palate | Disturbed breathing, eating and drinking due to mass in the palate, unable to close mouth. | Clinical: 4x4x3 cm irregular lesion in the midline of the hard palate. CT scan: soft tissue in the right maxillary sinus is visible, there are no focal bone abnormalities in the sinus area, no visible metastases in the head and neck. HPA: spindle cells, mitoses and blood | HAART (emtricitabine, tenofovir disoproxil fumarate, and lopinavir, and ritonavir), biopsy. | There was no recurrence of KS, CD4 increased to 81/ mm^3 and viral load was undetectable. |

| Study | Country | Study design | Case | Sex | Age | HIV/AIDS status | Kaposi's sarcoma's sites | Symptoms | Clinical presentation | Treatment/management | Clinical outcomes |
|----------------|----------|--------------|------|-----|---------|---|----------------------------------|--|---|--|---|
| | | | | | | | | | extravasation are visible. IHC: positive nuclei indicate the presence of HHV8 virus in the lesion. | | |
| Lawson et al. | Belgium | Case report | 1 | M | 42 y.o. | HIV on ART (lamivudine, tenofovir disoproxil, lopinavir, and ritonavir) | Larynx | Hoarseness and sore throat. The patient denied dyspnea. 6 weeks later experienced severe dysphagia and acute airway obstruction. | Clinical: purple lesions in the ventricular folds. 6 weeks later the lesion expanded from the right ventricular fold to the left and obstructed the airway. There was edema in the pharynx and arytenoids. HPA: nodular neoplastic lesion with spindle cells with mild atypia and slit-like vascular spaces. Extravasated erythrocytes and hemosiderin deposits in the stroma were also found. | Biopsy, emergency transoral CO ₂ laser vaporization continuous mode, 16 Watt with beam diameter 3 mm, chemotherapy (doxorubicin and vinblastine). | Recovered asymptomatic ally and the condition of the larynx was normal. |
| Tahir et al. | Malaysia | Case report | 1 | M | 39 y.o. | AIDS | Glottis | Progressive hoarseness and stridor | Clinical: large, round, whitish mass covering the glottic region. HPA: spindle cell connective tissue appears. | Emergency tracheostomy, biopsy, palliative radiotherapy | Not reported |
| Ribeiro et al. | Portugal | Case report | 1 | M | 24 y.o. | HIV CD4: 2/μL | Arytenoid, supraglottis, trachea | Worsening cough, shortness of | Clinical: vascular lesions causing narrowing of the | ART, chemotherapy (doxorubicin) 6 | Improved without any respiratory |

| Study | Country | Study design | Case | Sex | Age | HIV/AIDS status | Kaposi's sarcoma's sites | Symptoms | Clinical presentation | Treatment/management | Clinical outcomes |
|-------------|--------------|--------------|------|-----|---------|---|--------------------------|---|--|---|--|
| | | | | | | | | breath, hoarse voice, stridor, dyspnea, weight loss. | glottis, bilateral vocal cord paralysis, upper airway stenosis. The right vocal cord was paralyzed, and the right side experienced decreased mobility. | cycles, bronchoscopy, biopsy. | complaints and improved immune status. |
| Shao et al. | Tanzania | Case report | 1 | F | 32 y.o. | HIV clinical stage 4 CD4: 13/ μ L CD4%: 2.2 | Tongue | Recurrent fever, difficulty swallowing, decreased weight, enlargement and protrusion of the tongue, difficulty speaking, upper airway obstruction. | Clinical: mixed lesions in the form of necrotic tissue, fresh wounds, brownish plaque with erythematous edges that bleed easily on the dorsal tongue. Enlargement of the tongue until the oral cavity becomes blocked. HPA: erythrocyte extravasation, collagen splitting, and spindle cell tumors. | ART (tenofovir, lamivudine, and efavirenz), antibiotics for septicemia (ampicillin and metronidazole), antifungals for oropharyngeal candidiasis (fluconazole), oxygen therapy, tracheostomy. | Died due to worsening condition, oxygen saturation of 40% on oxygen therapy, failed intubation because the tongue was enlarged and blocked the oropharynx. |
| Yip | South Africa | Case report | 1 | M | 8 y.o. | HIV | Epiglottitis | Stridor and severe respiratory distress, facial edema, extensive oral ulcers, transmitted sounds on chest auscultation. Then experienced a decrease in O2 | Clinical: thickened and swollen epiglottis, brittle lesions extending throughout the larynx, bloody discharge. | Adrenaline nebulization, tracheal intubation, oxygen ventilation with SpO2 maintained at 99%, propofol 2 mg/kg, ART, biopsy, IV chemotherapy. | Improved and showed a positive response to ART. |

| Study | Country | Study design | Case | Sex | Age | HIV/AIDS status | Kaposi's sarcoma's sites | Symptoms | Clinical presentation | Treatment/management | Clinical outcomes |
|----------------|---------|--------------|------|-----|---------|--|--|--|--|--|--|
| | | | | | | | | saturation from 99% to 50%, central cyanosis | | | |
| Vinh et al. | USA | Case report | 1 | M | 30s | HIV CD4: <200/mm ³ | Base of tongue, infraglottis, subglottis | Progressively worsening dysphonia, dyspnea, and stridor. | Clinical: purplish nodules at the base of the tongue, and masses in the infraglottis and subglottis that almost completely cover the airway. CT scan: an obstructive mass in the larynx was seen. HPA: subepithelial spindle cell lesion with erythrocyte extravasation. | Emergency tracheostomy, excisional biopsy. | Not reported |
| Penjor & Chong | Bhutan | Case report | 1 | F | 26 y.o. | HIV CD4: 286/μL | Tonsils | Fever, heavy bleeding from masses in the tonsils. | Clinical: 1.5 x 1.0 cm purplish mass along the inferior left tonsil to the base of the tongue. HPA: proliferation of spindle-shaped cells with blood-filled spaces. | Tracheostomy, bilateral tonsillectomy, HAART (tenofovir, lamivudine, and efavirenz), 30 Gy radiotherapy in 10 fractions. | Clinically improved, CD4 increased to 497/μL |
| Nagano et al. | Japan | Case report | 1 | M | 27 y.o. | HIV CD4: 272/μL Viral load: 4,69 log copies/μL | Buccal gingiva of maxillary molars, right side of the palate, labial gingiva of maxillary anterior teeth, and cervical | Difficulty breathing when going to sleep. | Clinical: multiple soft, non-tender, elastic masses in the cervix that change the shape of the face, reddish soft and elastic masses in the oral mucosa, | Dexamethasone 40 mg IV to prevent airway obstruction, biopsy of masses in the oral mucosa and lymph nodes, chemotherapy (pegylated liposomal | CD4 increased to 700/μL, viral load reduced to 1.45 log copies/μL, mass disappeared in partial remission |

| Study | Country | Study design | Case | Sex | Age | HIV/AIDS status | Kaposi's sarcoma's sites | Symptoms | Clinical presentation | Treatment/management | Clinical outcomes |
|-------------|---------|--------------|------|-----|---------|---|---|---|--|--|---|
| | | | | | | | lymph nodes, pharynx. | | <p>oropharyngeal isthmus stenosis.</p> <p>CT scan: thinned cortical bone on the buccal side of the upper right molar is visible, lesions on the buccal and palatal sides of the upper right molar, lymphadenopathy.</p> <p>HPA: proliferation of atypical spindle-shaped cells, blood-filled channels.</p> <p>IHC: atypical spindle-shaped cells positive for CD31 and HHV8.</p> | doxorubicin 32 mg), ART (bictegravir sodium 50 mg, emtricitabine 200 mg, and tenofovir alafenamide fumarate 25 mg). | after 1 year of ART without recurrence. |
| Osei et al. | USA | Case report | 1 | M | 31 y.o. | AIDS CD4: 28/μL Viral load: 221.000 copies/mL | Epiglottitis, extends to the oro- and hypopharynx | Hoarseness, without stridor or dysphagia. The lesion causes upper airway obstruction at the level of the supraglottic larynx. | <p>Clinical: mass protruding from the posterior pharynx, submandibular lymphadenopathy.</p> <p>CT scan: a lobulated, heterogeneous, large, mass-like lesion appears, possibly from the epiglottitis and extending to the hypopharynx and supraglottitis.</p> | ART (bictegravir, emtricitabine, and tenofovir alafenamide), opportunistic infection prophylaxis (oral fluconazole and bactrim), tracheostomy, biopsy, PEG tube, chemotherapy (liposomal anthracycline (doxorubicin)). | CD4 increased to 115 cells/μL and viral load decreased to 265 copies/mL |

| Study | Country | Study design | Case | Sex | Age | HIV/AIDS status | Kaposi's sarcoma's sites | Symptoms | Clinical presentation | Treatment/management | Clinical outcomes |
|--------------|---------|--------------|------|-----|---------|---|--------------------------|---|--|---|--|
| Nasir et al. | USA | Case report | 1 | M | 31 y.o. | AIDS | Epiglottis | Hoarseness, dysphagia, continuous saliva production, respiratory disorders. | Clinical: purple, exophytic, necrotic mass. CT scan: a heterogeneous, lobulated lesion appearing from the epiglottis with almost total obstruction of the upper airway at the level of the supraglottic larynx. HPA: neoplastic spindle cells positive for markers CD31 and ERG. | Direct laryngoscopy with elective tracheostomy, biopsy, radiotherapy, chemotherapy (liposomal doxorubicin). | Not reported |
| Xie et al. | China | Case report | 1 | M | 31 y.o. | HIV with 2 years of ART discontinuation due to therapy failure CD4: 2/mm ³ Viral load: 237.000 copies/mL | Glottis | Hoarseness and dyspnea | Clinical: purplish red nodules measuring between 0.3-0.8 cm. | ART (albuvirtide and zidovudine), tracheotomy, endotracheal tube (ETT), chemotherapy (liposomal doxorubicin). | The patient's voice was normal, there was no shortness of breath, CD4 increased to 246/mm ³ , and viral load decreased to <40 copies/mL |

ART: antiretroviral therapy; HPA: histopathology; ETT: endotracheal tube; IHC: immunohistochemistry; HAART: highly active antiretroviral therapy; PEG: polyethylene glycol; IV: intravenous; KS: Kaposi's sarcoma; SpO2: peripheral oxygen saturation

Table S3 – Characteristics of patients involved.

| | n | % |
|---|----------|----------|
| Symptoms | | |
| Dyspnea | 16 | 22.86 |
| Hoarseness | 13 | 18.57 |
| Stridor | 11 | 15.71 |
| Dysphagia | 10 | 14.29 |
| Cough | 3 | 4.29 |
| Sore throat | 3 | 4.29 |
| Dysphonia | 2 | 2.86 |
| Lymphadenopathy | 2 | 2.86 |
| Weight loss | 2 | 2.86 |
| Bleeding | 2 | 2.86 |
| Hemoptysis | 1 | 1.43 |
| Difficulty speaking | 1 | 1.43 |
| Choking sensation | 1 | 1.43 |
| Foul odor | 1 | 1.43 |
| Hypersalivation | 1 | 1.43 |
| Unable to close mouth | 1 | 1.43 |
| Anatomical site | | |
| Supraglottis | 18 | 29.51 |
| Glottis | 11 | 18.03 |
| Subglottis | 7 | 11.48 |
| Epiglottis | 6 | 9.84 |
| Tongue | 4 | 6.56 |
| Arytenoids | 2 | 3.28 |
| Aryepiglottic folds | 2 | 3.28 |
| Hard palate | 2 | 3.28 |
| Soft palate | 2 | 3.28 |
| Tonsils | 2 | 3.28 |
| Vocal cord | 2 | 3.28 |
| Gingiva | 1 | 1.64 |
| Ventricular folds | 1 | 1.64 |
| Kaposi's sarcoma management | | |
| Surgery | 4 | 10 |
| Radiotherapy | 5 | 12.5 |
| Chemotherapy | 12 | 30 |
| Surgery and radiotherapy | 7 | 17.5 |
| Surgery and chemotherapy | 6 | 15 |
| Radiotherapy and chemotherapy | 1 | 2.5 |
| Surgery, radiotherapy, and chemotherapy | 2 | 5 |
| Not yet/Not done | 3 | 7.5 |
| Airway management | | |
| Tracheotomy/Tracheostomy | 17 | 73.9 |
| Steroids | 2 | 8.7 |
| Oxygen therapy | 2 | 8.7 |
| Nebulized adrenaline | 1 | 4.3 |
| Intubation | 1 | 4.3 |
| Clinical outcomes | | |
| Healed/improved | 11 | 27.5 |
| Died due to HIV/AIDS, including other complications | 22 | 55 |
| Died due to airway obstruction | 1 | 2.5 |
| Died of unknown causes | 1 | 2.5 |
| Not reported | 5 | 12.5 |

Table S4 – Quality assessment using JBI checklist.

[illegible]