Table 1: Controlled clinical trials of ginseng (*Panax ginseng, P. quinquefolius*) in the management of cancer

Source: Markus Horneber, CAM-Cancer Consortium ginseng (*Panax ginseng, P. quinquefolius*) in the management of cancer [online document]. http://www.cam-cancer.org/CAM-Summaries/Herbal-products/Ginseng-Panax-ginseng-P.-quinquefolium, October 2014.

Study	Design	Participants	Treatment	Outcomes	Comments
Lu 2008 [27]	Randomized, active control, open-label, parallel-group, three arms	Included patients: 133 Age: 55 years average (40-71 years range) Gender: 80 males, 53 females Disease: NSCLC (squamous cell carcinoma n=79; adenocarcinoma n=49; large cell carcinoma n=5); UICC stage II (n=73) and IIIa (n=60);3-6 weeks after radical surgery Inclusion criteria: No prior chem-otherapy, radiotherapy, immunotherapy or other anti-tumor treatment, performance status: >70% (Karnofsky score)	Arm A: Shenyi Capsule* Arm B: Shenyi Capsule + Chemo-therapy** Arm C: Chemotherapy** *Main active ingredient (according to the provider): Ginsenoside Rg3; dosage 40-50 mg per day; duration “at least half a year” **Chemotherapy: Different commonly used chemotherapy regimens	Clinical outcomes (results): Survival (similar 1-/2-/3-year overall survival rates in all groups) Other outcomes: CVEGF serum levels (correlation between survival and VEGF-expression)	Design: randomization procedure unclear Participants: small groups, unclear distribution of disease subtypes and stages among groups Treatment: distribution of chemo-therapy regimens among groups unclear, treatment does not comply with international treatment stand-ards, no definite information con-cerning ingredients of Shenyi cap-sules available Outcomes: no time to events data provided
Chen 2007 [28]	“Randomly divided”, two arms (no fur-ther information provided)	Included patients: 71 Disease: Gastric cancer, advanced, postoperative (no further information provided)	Arm A (intervention): Ginsenoside Rg3 Arm B (control): no treatment Basic treatment (both groups): Mitomycin C and Tegafur	Clinical outcomes (results): Survival (significantly different median survival time) Other outcomes: VEGF serum levels (correlation with survival, depth of tumor invasion, lymph node metastasis, tumor size, TNM stage)	In English only as abstract publication available
Huang 2009 [29]	Randomized, controlled, two arms (no further infor-mation provided)	Included patients: 60 Disease: Advanced esophageal cancer (no further information provided)	Arm A (control group, n = 30) Chemotherapy (Gemcitabine and Cisplatin) Arm B (intervention group, n = 30) Shenyi Capsules + Chemotherapy (Gemcitabine and Cisplatin)	Clinical outcomes (results): Survival (1-year survival rate higher in the treatment group) Tumor response ((no significant differences in total response rates) Quality of life (significantly better in treatment group) Chemotherapy-associated adverse effects (less neutropenia and thrombopenia in treatment group; lower frequency of vomiting/nausea) Other outcomes: VEGF levels (decline in treatment group)	In English only as abstract publication available

Table continued

Barton 2010 [30]	Randomizsed, double-blind, placebo-controlled, 4 arms	Included patients: 282 Patients with cancer-related fatigue (>4 in screening question, >1 month, no other explanations for fatigue)	Arm A (control): Placebo Arm B – D (intervention): Panax quinquefolius with different dosages Arm B: 750mg/day Arm C: 1g/day Arm D: 2g/day	Clinical outcomes (results): Fatigue (brief fatigue inventory with no statistically significant differences between the 4 groups with a trend towards a greater effect in arm C and D) Quality of Life (SF-36 with no statistically significant differences between the 4 groups with a trend towards a greater effect in arm C and D) Adverse effects (no statistically significant differences between the groups	Methodologically sound pilot trial with a dose-finding/confirmatory design; good reporting quality
Kim 2006 [31]	Randomized, double-blind, placebo-controlled, pilot study	Included patients: 53 Patients with different cancer (mainly gynecologic, hepatobiliary)	Arm A (intervention): Sun ginseng 3g/day (heat processed Panax ginseng containing Rs4, Rs5, Rs6, Rs7) Arm B (control): Placebo	Clinical outcomes (results): Quality of life (WHOQOL-BREF, GHQ: in both instruments significantly better in the intervention group)	Design: randomization procedure unclear Patients: small, heterogeneous study population; unequal group sizes Treatment: placebo not described Outcomes: setting of instrument distribution unclear
Younus 2003 [32]	Randomised, double-blind, placebo-controlled	Included patients: 20 Chemotherapy naive cancer patients	Arm A (intervention): Panax ginseng Arm B (control): Placebo (no further information provided)	Clinical outcomes (results): Quality of life (QLQ-C30, significant improvement in intervention group) Fatigue (brief fatigue inventory form, significant improvement of total fatigue level and average fatigue level in intervention group)	In English only as abstract publication available
Barton 2013 [7]	Randomised, double-blind, placebo-controlled, 2 arms	Included patients: 346 Patients with a cancer related fatigue (>4 in screening question, >1 month, no other explanations for fatigue) undergoing or having completed curative intent treatment	Arm A (control): Placebo Arm B (intervention): Panax quinquefolius 2g/day	Clinical outcomes (results): Fatigue (MFSI, subscales and POMS showed reduction of general and physical CRF after 8 weeks in intervention group)	Replication study of Barton 2010 with a sound methodology
High 2012 [8]	Randomized, double-blind, placebo-controlled	Included patients: 293 Disease: CLL, early stage, untreated	Arm A (control): Placebo Arm B (intervention): Panax quinquefolius extract (CVT-E002)	Clinical outcomes (results): Infectious complications (no significant reduction in incidence of Acute respiratory illness (ARI) in intervention group, but less moderate or severe ARI) Other Outcomes: More seroconversion to common viruses in treatment group	Methodologically sound trial with a confirmatory design; good reporting quality