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| **Table D. Characteristics of the 31 randomized trials Involving the use of acupuncture during in vitro fertilization (IVF) or intracytoplasmic sperm injection (ICSI) treatment included in the systematic review with meta-analysis** | | | | | | | |
| **Study** | **Participants** | **Country** | **Intervention** | **Control** | | **Placebo intervention** | **IVF outcomes** |
| Stener-Victorin et al. (1999)[[13](#_ENREF_13)] | 150 randomized—no inclusion criteria | Sweden | EA and PCB | Alfentanil +PCB | | No | CPR,IR,MR |
| Paulus et al. (2002)[[14](#_ENREF_14)] | 160 randomized—only women with good quality embryos included | Germany | TA and AA for 25 minutes before and after ET | Lying still for 25 minutes before and after ET | | No | CPR,OPR,LBR |
| Stener-Victorin et al. (2003)[[16](#_ENREF_16)] | 286 randomized—eligible women aged <38 years, BMI <28 kg/m2, had 4 or more follicles sized>18 mm and no more than 3 previous IVF attempts | Sweden | PCB and EA | Alfentanil+ PCB | | No | CPR,OPR,IR,MR |
| Paulus et al. (2003)[[15](#_ENREF_15)] | 200 randomized—only women with good quality embryos included | Germany | TA for 25 minutes before and after ET | Sham (noninvasive) | | Yes | CPR,OPR,LBR |
| Humaidan and Stener-Victorin (2004)[[17](#_ENREF_17)] | 200 randomized—no inclusion criteria | Denmark | PCB and EA | Alfentanil+ PCB | | No | CPR,BCP,IR |
| Gejervall et al. (2005)[[18](#_ENREF_18)] | 160 randomized—no inclusion criteria | Sweden | PCB and EA | Premedication+ Alfentanil +PCB | | No | CPR |
| Dieterle et al. (2006)[[20](#_ENREF_20)] | 225 randomized—no inclusion criteria | Germany | TA for 30 minutes after ET and 3 days later +Chinese medical herbs | Placebo needling at acupoints designed not to influence fertility | | Yes | CPR,BCPR,OPR,IR,LBR,MR |
| Westergaard et al. (2006)[[23](#_ENREF_23)] | 300 randomized—no inclusion criteria | Denmark | TA for 25 minutes before and after ET with or without a third session for 25 minutes 2 days after ET | Bed rest for 1 hour after ET | | No | CPR,BCPR,OPR,IR,LBR |
| Smith et al. (2006)[[22](#_ENREF_22)] | 228 randomized—women with a planned ET were eligible | Australia | TA | | Placebo needling at points close to the real acupuncture acupoints | Yes | CPR,OPR |
| Sator-Katzenschlager et al. (2006)[[21](#_ENREF_21)] | 94 randomized—women aged<43 years, BMI <28 kg/m2, had 4 or more follicles of size>18 mm | Austria | AA with or without electrical stimulation+ PCA | | PCA+ placebo AA | Yes | CPR |
| Benson et al.(2006)[[19](#_ENREF_19)] | 258 randomized—women scheduled to have ET were eligible | USA | Traditional needle or laser acupuncture for 25 minutes before and after ET | | Sham laser acupuncture, relaxation or no intervention | No (except laser group) | CPR,BCPR |
| Craig et al. (2007)[[24](#_ENREF_24)] | 107 randomized—women undergoing IVF who have not had acupuncture within 3 months | USA | TA for 25 minutes before and after ET | | No intervention | No | CPR,BCPR |
| Domar et al. (2009)[[26](#_ENREF_26)] | 150 randomized—women scheduled to have ET using non-donor eggs were eligible | USA | TA for 25 minutes before and after ET | | Lay quietly for same amounts of time | No | CPR,BCPR |
| Chen et al. (2009)[[25](#_ENREF_25)] | 60 randomized—women undergoing frozen ET | China | EA from the fifth day of natural menstrual cycle | | No intervention | No | CPR,IR |
| So et al. (2009)[[27](#_ENREF_27)] | 370 randomized—women who had a normal uterine cavity shown on ultrasound scanning on the day of TVOR | China | TA for 25 minutes before and after ET | | Placebo needling for 25 minutes before and after ET | Yes | CPR,BCPR,OPR,IR,LBR,MR |
| Andersen et al. (2010)[[28](#_ENREF_28)] | 635 randomized—women <37 years of age, treatment with IVF/ICSI and transfer of 1 or 2 embryos in the first, second, or third stimulated cycle | Denmark | TA accompanying ET | | Placebo needling accompanying ET | Yes | CPR,BCPR,OPR,LBR |
| Moy et al. (2010)[[29](#_ENREF_29)] | 161 randomized—women <38 years old undergoing IVF with or without ICSI | USA | TA and AA for 25 minutes before and after ET | | Placebo needling in non-qi lines in the predetermined locations. AA was performed at the following acupoints: knee, heel, allergic area, mouth | Yes | CPR,BCPR |
| Madaschi et al.(2010)[[30](#_ENREF_30)] | 516 randomized patients—aged ≤35 years and undergoing ICSI cycles for the first time | Brazil | TA for 25 minutes before and after ET | | None | No | CPR,LBR,MR |
| Cui et al. (2011)[[31](#_ENREF_31)] | 66randomized women—infertile women aged 23–39 years | China | EA was administered 30 minutes before and during COH | | None | No | CPR,LBR,MR |
| Zhang et al. (2011)[[32](#_ENREF_32)] | 330 randomized women—infertile women aged 21–44 years, undergoing frozen-cryopreservation embryo transplant or fresh cycle IVF with or without ICSI | China | TEAS was administered 30 minutes after/before and before ET | | Mock TEAS | Yes | CPR,IR,LBR,BCPR |
| Sun et al. (2012)[[33](#_ENREF_33)] | 97 randomized—women were candidates for IVF-ET | China | TA + Chinese material medical was performed before ET | | None | No | CPR |
| Rashidi et al. (2013)[[34](#_ENREF_34)] | 62 randomized—women aged 18–40 years with PCOS who were candidates for IVF/ICSI | Iran | Acupuncture was performed before and after ET | | None | No | CPR,OPR,BCPR,MR |
| Villahermosa et al. (2013)[[35](#_ENREF_35)] | 84 randomized—women infertile patients diagnosed with embryo implantation failure aged<38 years | Brazil | TA +moxibustion before ovarian puncture and on the day after embryo transfer | | Sham TA | Yes | CPR,BCP |
| Qu et al.(2014)[[38](#_ENREF_38)] | 305 randomized—women infertile patients with tubal blockage | China | AA 4 times with 15 minutes each time by themselves before and after ET | | Sham AA or no AA | Yes | CPR,IR,LBR |
| Craig et al.(2014)[[36](#_ENREF_36)] | 113 randomized—no inclusion criteria | USA | TA performed before and after ET | | None | No | CPR,LBR |
| Hong et al.(2014)[[37](#_ENREF_37)] | 109 randomized—women with IVF/ICSI | China | EA lasted for 30 min from the day of Gn injection to the day of embryo transfer | | None | No | CPR,IR,MR |
| Shuai et al. (2015)[[41](#_ENREF_41)] | 68randomized—women 25–40 years old undergoing hCG-induced natural cycle FET | China | EA lasted for 30 min before the scheduled FET | | Mock TEAS | Yes | CPR,LBR,IR,MR |
| Li et al. (2015)[[40](#_ENREF_40)] | 217 randomized—women >40 years old with PCOS | China | EA for 30 minutes before and at the time of controlled ovarian hyperstimulation | | None | No | CPR,MR |
| chen et al. (2015)[[39](#_ENREF_39)] | 114 randomized—women 24–35 years old with infertility due to tubal-induced gamete transport barriers | China | TA + moxibustion for 30 minutes before ET | | No TA | No | CPR |
| Yang et al.(2015)[[42](#_ENREF_42)] | 200randomized—women who were PCOS patients aged 21–39 years | China | EA was administered 30 minutes before COH | | None | No | CPR,MR |
| Zheng et al. (2015)[[43](#_ENREF_43)] | 240 randomized—women 26–47 years old with infertility due to tubal-induced gamete transport barriers | China | TEAS lasted for 30minutes per day during the ovulation cycle until the day of egg retrieval | | False HANS, artificial endometrial cycle treatment (AEC) | Yes | CPR,MR |

Note：PCB, paracervical block; EA, electroacupuncture; CP, clinical pregnancy; IR, implantation rate; MR, miscarriage rate; TA, traditional acupuncture; AA, auricular acupuncture; ET, embryo transfer; OP, ongoing pregnancy; LB, live birth; BMI, body–mass index; CPR, clinical pregnancy rate; BCP, biochemical pregnancy; PCA, patient-controlled analgesia (remifentanil pump); TVOR, time of transvaginal oocyte retrieval; TEAS, transcutaneous electrical acupoint stimulation