

KOLEKSI SEL TELUR DENGAN TEKNIK LAPAROSKOPI UNTUK PRODUKSI EMBRIO DAN TRANSFER EMBRIO PADA DOMBA

Mohamad Agus Setiadi^{1^} Iman Supriatna^{1'} dan Arief Boediono^{2'}

ABSTRACT

LAPAROSCOPIC OVUM PICK UP FOR IN VITRO EMBRYO PRODUCTION AND EMBRYO TRANSFER IN SHEEP

An experiment was carried out to analyze the application of laparoscopic technique for oocyte collection, in vitro embryo production and embryo transfer in sheep. The First experiment was conducted to observe effect of gonadotropin stimulation on follicle development and laparoscopic technique for oocytes aspiration. In the second experiment, effect of culture system on the embryo development in vitro was assessed and in the third experiment, the application of laparoscopic for embryo transfer has been conducted. The Result showed that single dose of gonadotrophin was sufficient to support follicle development significantly and it could help follicle visualization. It also showed that laparoscopic ovum-pick up could be conducted weekly without any restriction. The second series experiment showed CRlaa culture system was better than TCM 199 (29.90% vs 8.00%) and the changing of media was required to ensure better metabolism process for embryos. The third experiment revealed that embryo transfer could be conducted with an aid from laparoscope. In conclusion, single dose PMSG stimulation is sufficient to support follicle development for laparoscopic ovum-pick up, the culture media changing affects the successful rate of in vitro embryo production (8% vs 25.66%) and the laparoscopy technique can be used safely for embryo transfer on sheep.

Keyword. Laparoscopic, oocyte, embryo transfer, sheep

ABSTRAK

Penelitian telah dilakukan untuk mengamati aplikasi teknik laparoskopi untuk koleksi sel telur, produksi embrio in vitro serta aplikasi transfer embrio pada domba. Penelitian pertama dilakukan untuk melihat pengaruh stimulasi gonadotropin pada perkembangan folikel dan teknik pengambilan dengan

Bagian Reproduksi dan Kebidanan, Departemen Klinik Reproduksi dan Patologi, Fakultas Kedokteran Hewan Institut Pertanian Bogor. Telp./Fak. : 0251-623940. E-mail: masetiad(5)indo.net.id

2) Bagian Embriologi, Departemen Anatomi Fisiologi dan Farmakologi, Fakultas Kedokteran Hewan, Institut Pertanian Bogor

laparoscopi. Penelitian kedua mengamati pengaruh sistem kultur terhadap perkembangan embrio in vitro, sementara penelitian ketiga melihat aplikasi transfer embrio dengan teknik laparoscopi. Hasil penelitian menunjukkan bahwa dosis tunggal PMSG mampu membantu menstimulasi perkembangan folikel secara nyata, membantu visualisasi serta dapat dilakukan pengambilan oosit setiap minggu tanpa hambatan. Penelitian tahap kedua menunjukkan bahwa sistem kultur yang diterapkan akan dapat meningkatkan perolehan embrio pada produksi embrio in vitro (8.00%-29.90%). Media CR1aa lebih cocok untuk perkembangan embrio domba in vitro dibandingkan dengan TCM 199 (29.90% Vs 8.00%). Pergantian media dari TCM 199 ke CR1aa dapat memperbaiki perolehan embrio (8.00% vs 25.66%). Sementara itu teknik laparoscopi dapat diaplikasikan untuk pelaksanaan transfer embrio pada ternak domba.

Kata Kunci: Laparoscopi, Oosit, transfer embrio, domba

