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Short communication

EFFECT OF MOP-DRYING ON BODY TEMPERATURE OF PORCINE NEONATES

The first few days of pig's life are very critical. The heat regulating mechanism in its body does not operate well during this phase. Moreover, morphological characteristics of porcine neonates are ill-suited to extremes of ambient temperatures. Porcine neonates are particularly susceptible to low ambient temperature. About 3% of all pigs born are lost because they become chilled (Deyoe and Krider, 1952). In the present investigation, the rectal and skin temperatures of neonate pigs and the effect of artificial drying of the neonates with the help of dry cloth immediately after birth on them were studied.

The study was conducted on 44 Large White Yorkshire neonates maintained at Regional Pig Breeding cum Bacon Factory, Haringhata Farm during March-June, 1991. The sows were housed individually five days prior to expected date of farrowing in closed but well ventilated farrowing pen with concrete floor and asbestos roof. No bedding was provided during and after farrowing. Just after birth, the piglets were removed from the sow and kept in a wooden box with sufficient straw padding. At the completion of farrowing and expulsion of placenta, the sow was given bath and the pen was cleaned thoroughly. All the piglets were released at a time to initiate suckling. Throughout the experiment (day 9 post farrowing) the piglets were housed with the sow. No open area was provided with the farrowing pen and thus there was no scope for the piglets to get exposed to direct solar radiation. Necessary arrangement was there to baffle the incoming air through inlet ventilators so that the piglets can avoid any form of wind chilling. The average microclimate of the farrowing pen at the time of experimentation was maximum temperature $35.13 \pm 0.23^{\circ}C$, minimum temperature $23.95 \pm 0.28^{\circ}C$. and temperature humidity indices at 6.30 am and 1.30 pm 77.27 ± 0.37 and 84.52 ± 0.30 respectively. Out of the 44 piglets, 22 were moped dry immediately after birth with a clean dry cloth and rest 22 were allowed to dry naturally. The rectal and skin temperatures of the piglets were recorded simultaneously at 30th min, 14th, 26th, 38th and 50th hrs and 3rd, 4th, 5th, 6th, 7th 8th and 9th day post birth with the help of a digital clinical thermometer (Omron, Japan). Statistical analysis was done as per Snedecor and Cochran (1968).

The rectal and skin temperatures of artificially and naturally dried piglets at different time intervals after birth are given in Table 1. As it is evident from the results that the neonates had both low rectal and skin temperatures 30 min after birth which showed an increasing trend with passage of time and attained a stable and normal value at about 8th to 9th day of birth. Thus it could be inferred that the animals attained thermostability at 8th to 9th day of birth. However, analysis of variance revealed non-significant difference between rectal and skin temperatures at any point of recording, except at 26 hrs after birth ($P<0.05$). The method of drying also failed to produce any impact on variation in rectal and skin temperatures. Though the average ambient temperature was lower than the rectal temperature, the animals failed to maintain a steady thermal gradient between rectal and skin temperature which is indicated by an almost same rectal and skin temperatures even upto 9th day of birth. However, it may also be due to comparatively higher ambient temperature ($35.13 \pm 0.23^{\circ}C$) at the time of experimentation.

Table 1. Rectal and skin temperature (°F) of artificially and naturally dried piglets at differen times after birth

(Mean ± SE)

Method of drying	Time of recording (post birth)											
	30th minute		14th Hour		26th House*		38th Hour		50th Hour		3rd Day	
	Rectal	Skin	Rectal	Skin	Rectal	Skin	Rectal	Skin	Rectal	Skin	Rectal	Skin
Artificial	100.36±0.36	100.53±0.42	102.61±0.18	102.90±0.19	103.37±0.16	103.83±0.16	102.87±0.43	103.33±0.49	103.45±0.27	103.90±0.30	103.11±0.20	103.88±0.18
Natural	100.74±0.25	100.82±0.33	102.48±0.14	102.55±0.17	103.23±0.15	103.79±0.17	103.36±0.27	103.67±0.26	103.46±0.24	103.96±0.24	102.98±0.14	103.23±0.12
	4th day		5th day		6th day		7th day		8th day		9th day	
Artificial	101.84±0.31	102.19±0.34	104.86±0.39	105.25±0.43	103.20±0.55	103.27±0.41	104.00±0.40	103.87±0.45	103.80±0.44	103.72±0.49	103.77±0.49	103.25±0.48
Natural	100.81±0.83	100.70±0.87	10.3.92±0.70	104.36±0.67	102.47±0.67	103.01±0.55	103.45±0.51	103.20±0.54	103.20±0.54	103.43±0.47	102.48±0.84	103.03±0.78

* ($P < 0.05$)

Curtis (1970) noted that while fluid evaporated from piglet's surface the latent heat caused a large energy expenditure for the piglets and mop-drying reduced energy expenditure. The beneficial effect of mop-drying would have been more evident in an environment where the effective ambient temperature was below the lower critical temperature of 34°C for the neonate pig (Mount, 1963).

The benefit if any due to the treatment could only be assessed through investigations on growth rate, feed efficiency and mortality rate. However, the fact that the neonate Yorkshire pigs maintained a skin temperature very near to core rectal temperature precludes the possibility of chilling, whether mop-dried or not.

Summary

Rectal and skin temperatures of 44 large White Yorkshire neonate was studied during March-June, 1991. Half of the piglets were moped dry with the help of dry cloth immediately after birth while rest were allowed to dry off naturally. Rectal and skin temperatures did not differ significantly.

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Short Communication

TREATMENT OF FOLLICULAR CYST USING HCG AND PROSTAGLANDIN IN A COW

A crossbred brown swiss cow aged six years was referred to the infertility clinic under the Department of Animal Reproduction, from a field Veterinary Hospital with a complaint that the cow has cystic ovary which did not respond to treatment. The cow, in second lactation, had calved over two years back and had 13 inseminations at nearly normal cyclic intervals with two spells of reported anoestrum of 8 to 9 months duration in between. It had also received treatment once with Human Chorionic Gonadotropin and Prostaglandin $F_2\alpha$ and a host of emperical treatment for infertility, without success. The successful treatment of this case with combination of HCG and PGF_2 is reported.

Eventhough there was pronounced relaxation of the pelvic ligaments and flaccidity of the vulva, the tail head was not found raised. There was copious flow of cloudy discharge and pronounced homosexual behaviour. Per rectal examination revealed a highly enlarged cervix which was soft and dilated. The uterus was enlarged and doughy in consistency and the left uterine horn appeared two to three times larger than the right. The left ovary was 4 cm in diameter and nearly spherical in shape with a large soft and tense cyst. The right ovary was oval in shape, 3 cm long, flat but tense. The case was diagnosed as follicular cyst and treatment was adopted as below.

Corion[1] - 2000 IU x 2 was administered intramuscularly followed by Dinofertin[2] - 25 mg intramuscularly on the 9th day of corion administration. In order to combat uterine infection Oxytetracyclin[3] 30 ml was given intramuscularly for three consecutive days and Alincomycin[4], 2g dissolved in 40 ml distilled water, intrauterine was administered on the day of corion administration. Per rectal examination was carried out every third day to evaluate the effectiveness of treatment. The left ovary had registered considerable reduction in size and the cyst wall became soft and thick indicating leutinisation of the cyst. There was considerable reduction in the size of the left horn. Seventy two hours after the administration of PGF_2 there was flow of copious quantity of clear glassy stringy discharge and the cow showed clear signs of heat. Per rectal examination revealed medium tone of the uterus. Both the ovaries were nearly normal in size and soft in consistency. The cow was inseminated twice at 72 hours and 96 hours after prostaglandin administration with chilled semen. Post A.I. intrauterine infusion of homologous plasma 35 ml was also done 6 hours after the second insemination. The cow did not return to heat and pregnancy was confirmed after 3 months of AI.

The response of COD to exogenous administration of HCG greatly depends on the integrity of membrana granulosa and theca interna cells. The fact that the cyst became thick walled and soft clearly indicate that there was leutinisation of the and soft clearly indicated that there was leutinisation of the cyst. Administration of prostaglandin $F_2\alpha$ on the 9th day of HCG treatment helps leuteolysis and the next ovulatory cycle occurs 72 to 96 hours after PGF_2 administration when A.I. can be carried out with successful conception.

Summary

Successful treatment of follicular cyst in a crossbred cow with HCG followed by prostaglandin $F_2\alpha$ on ninth day is reported.

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1&2 - Win Medicare Ltd., New Delhi; 3&4 - Alved Pharma, Madras.