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THE USE OF OXYGEN IN CARDIORESPIRATORY DISEASES THERAPY IN DOG AND CAT

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Summary

Respiratory insufficiency is the incapacity of respiratory system, especially the lungs, to support blood gases homeostasis. The causes of respiratory insufficiency are as follow: alveolar hypoventilation, damage of diffusion and intrapulmonary sanguine bypass.

In this way, the oxygen therapy is one of this syndrome procedure.

Materials and method

The studies have been made to the clinical clinic of the Faculty of Veterinary Medicine – Bucharest, for two years term.

There were studied the effects and the procedures of the oxygen therapy in pets: the dog and the cat.

The animals' examination was clinical and supplementing. Complementary exams were: electrocardiography, echocardiography, x-radiation, biochemical sanguine exams.

The oxygen administration has been achieved with a cylinder (8 liters). The pressure regulator was MEDIDAVE MD 100.

Results and discussions

The work proposed to study the indications and the way of using the oxygen in diseases' therapy in animals.

The manage system of the oxygen is made of cylinder, the pressure regulator, moister and manage system (oxygen mask and pipes) (figure 1).

Figure 1. Portable system for oxygen administration in pets

For avoiding the toxic effects that can appear, the oxygen is given in accordance with some parameters, those being mentioned in table 1.

Table 1

Oxygen administration parameters in dog and cat

Administration method	Maxim concentration of O_2	Administration rate - l/min.
Mask	50 – 60%	8 - 12
Catheter nasal	50%	6 – 8
Catheter transtracheal	30 – 40%	1 – 2
Tracheal tube	100%	0.2 l/kg
Oxygen cort	60%	2 - 3***

The use of oxygen in Medical Clinic has been made in some situations as follow: congestive heart failure; pleurisy/ pericarditis; intrathoracic tumors; chronic pulmonary emphysema; other rare situations – heart infarct, anemia, intraoperative (diaphragmatic hernia), shock, some intoxications, hypothermia etc.

Conclusions

1. Oxygenotherapy is a complementary therapeutic method in acute respiratory failure. The increase of air inhale oxygenous involve an increase of inhale oxygen fraction and an increase of partial blood

pressure of the oxygenous (paO_2) and SaO_2 if the pulmonary diffusion conditions are normal and there is no pulmonary shunt.

2. The oxygen administration supposed to observe some parameters as: oxygen concentrations and administration frequency (l/min). In dog, maximum permitted oxygen concentration is 40-60% and the frequency is 6-8 l/min. those parameters are fitting depending on disease, clinical state and clinical course of the animal.
3. Unfavorable effects of the oxygen therapy are: 3.1. physical (explosion and fires); 3.2. nasal membrane traumatism; necrosis and subcutaneous emphysema; gastric dilatation; membranes dryness; 3.3. functional complications; 3.4. cytotoxic complications.
4. As a final conclusion, oxygen therapy is a therapeutically method very effective and useful in veterinary clinics, this why helping many animals and it is solving many pathological pulmonary and extra pulmonary affections.

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