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Vaccinate young puppies to reduce rabies risk in endemic areas

A new study by UK-based scientists has found that vaccinating puppies under three months of age is effective in reducing the public health risk from rabies in Africa and Asia where rabies is highly prevalent in dogs.

Vaccination of dogs for rabies is usually recommended by vaccine manufacturers at no younger than three months old. However, in areas such as Africa and Asia a higher incidence of rabies is often reported in dogs younger than 12 months of age including puppies less than three months of age. This presents a serious risk to public health as stray puppies are often adopted by local families.

The perception of immature immune systems and possible interference from circulating maternal antibodies to rabies in puppies of less than three months, led vaccine manufacturer's to recommend this minimum age for vaccination, despite WHO guidelines advising that all dogs be vaccinated in endemic areas.

Leading researchers, including scientists from the UK Government's Animal and Plant Health Agency (APHA) tested this perception by vaccinating a group of puppies, aged three months and under, with a high quality, inactivated rabies vaccine, as part of a study in Gauteng Province, South Africa, and the Serengeti District, Tanzania. All the dogs were owned and allowed to free-roam. Following immunisation, all of the puppies showed suitably high levels of antibodies to the rabies virus, without any adverse reactions reported.

Professor Tony Fooks, Head of the Wildlife Zoonoses and Vector-Borne Diseases Research Group at the APHA commented,

“On World Rabies Day, we take this opportunity to highlight the risk of contracting rabies from close contact with puppies and present data to support the vaccination of all dogs in Africa and Asia, including those less than three months of age, with high quality, inactivated rabies vaccine, as recommended by the WHO.

“Although mortality in puppies of less than three months of age is generally high in these regions, delaying vaccination until puppies are three months of age or more may mean that these dogs are never vaccinated. It is also easier to vaccinate younger puppies before they start roaming more widely.”

“However, the vaccination of puppies less than three months against rabies must be undertaken alongside existing rabies vaccination programmes in juvenile and adult dogs in order to maintain immunity in dog populations.”



In Asia, Africa, Central and South America, rabies is endemic in both feral and domestic dogs. Rabies is generally always fatal once clinical symptoms have developed and worldwide approximately 60,000 people die of rabies each year (WHO, 2013). Mortality is highest in less developed communities, particularly where domestic dogs tend to be free-roaming. Children in endemic regions are at particular high risk, with about 40 percent of all animal bite exposures occurring in children under 15.

Most human deaths caused by rabies are due to a bite or scratch from a rabid dog, therefore vaccination of dogs is central to successfully reducing the numbers of people dying from this terrible disease.

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Notes:

1. Full paper published in Veterinary Record (Open Access)
<http://veterinaryrecord.bmj.com/content/early/2015/06/24/vr.102975.full.pdf+html>
2. World Rabies Day, first launched on September 28, 2007, is an initiative of the global Alliance for Rabies Control. This day was chosen as it commemorates the death of Louis Pasteur who created the first rabies vaccine. The campaign is supported by international health organisations and major stakeholders including the World Health Organization (WHO), the Food and Agricultural Organization of the United Nations (FAO) and the World Organisation for Animal Health (OIE). <http://rabiesalliance.org/world-rabies-day/>
3. The Animal and Plant Health Agency is an Executive Agency of the Department for Environment, Food and Rural Affairs, working to safeguard animal and plant health for the benefit of people, the environment and the economy.
4. The Animal and Plant Health Agency (APHA) was launched on 1 October 2014. It merges the former Animal Health and Veterinary Laboratories Agency (AHVLA) with parts of the Food and Environment Research Agency (Fera) responsible for plant and bee health to create a single agency responsible for animal, plant and bee health.

Media enquiries: Alison Wilson 01904 405173 alison.wilson@apha.gsi.gov.uk

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