Introduction to the pet pig

Dr Gayle D. Hallowell MA VetMB PhD CertVA DipACVIM-LAIM DipACVECC PFHEA MRCVS
School of Veterinary Medicine and Science, Sutton Bonington, University of Nottingham, UK
gayle.d.hallowell@nottingham.ac.uk

Learning objectives

1. Restraint, sedation and anaesthesia of the pet pig
2. Common conditions encountered in the pet pig
3. Diagnostic and treatment options

The pet pig often fills one with dread. As pets these animals come in a variety of sizes from the micro or teacup pigs that are the height of labradors and weigh anywhere between 20 and 100Kg as adults, the Kunekune and Pot-bellied pigs that weigh 100-120Kg to fully grown Tamworth sows weighing anything up to 300Kg. They also have very varied temperaments. Clients range from having very poor to extremely good handling skills. A proportion of pet pigs are kept in substandard conditions, including living in the house. It is possible to house train them.

Pigs are food-producing animals and there are a number of pharmacological agents licensed for this species.

Minimal handling often provides the best opportunity of performing a physical examination. This does often require provision of significantly more time than for the average examination. If examination of a pig is easy, they are likely to be very sick! If the pig is naughty, difficult or aggressive, a pig board can be extremely valuable. In my opinion, for pet pigs, there is no place for snares, they cause significant upset to the pig and they are not well accepted by clients.

Physical examination

It is important to establish an accurate body condition score (BCS) as obesity is a very common problem in pet pigs. The normal heart rate is 70-90 beats per minute in the adult, although it may be higher than this if the pig is stressed or active. The respiratory rate of the adult pig is between 10-20 breaths per minute and body temperature between 38.5-39.5°C. Examination of the skin is relatively straightforward. Examination of the feet and mammary glands require patience.

Sedation

Azaperone (2-4mg/kg IM) is a butyrophenone and has similar properties to acetylpromazine. This drug is licensed in the pig and is extremely effective as long as it is administered intramuscularly and not intra-fat and given to a relatively unstressed pig. This drug should not be administered to hypovolaemic or critically ill pigs. In these circumstances, if sedation is required, diazepam or midazolam can be used (0.05-0.1 mg/kg IV, IM or per rectum).
Anaesthesia

There are several challenges with porcine anaesthesia. This includes challenges of intravenous access. It may be possible to catheterise the auricular vein in large pigs, but is very difficult in micro and SE Asian pigs. The next challenge is that the SE Asian and micro pigs are prone to airway instruction in the post-anaesthetic period like brachycephalic dogs. They need careful monitoring in the post-operative period and should only be extubated when they are swallowing and can hold up their own head. These pigs are also prone to overheating and thus should not be actively warmed routinely and their temperatures should be carefully monitored.

The drug that should be used for anaesthesia in the pig is ketamine (5-10mg/kg IM given 5 minutes following azaperone). It is stated in the EU guidelines that maximum residue limits are not required for this drug as it is rapidly metabolised (http://ec.europa.eu/health/files/eudralex/vol-5/reg_2010_37/reg_2010_37_en.pdf). At this stage catheters can be placed and further ketamine administered IV (usually 1mg/kg boluses) to facilitate intubation. Pigs are conventionally intubated in dorsal recumbency. They are prone to laryngeal spasm and oedema so gentle intubation is required. Stiffening of the endotracheal tube will facilitate intubation. Maintenance of anaesthesia can be undertaken using isoflurane or further ketamine boluses.

Diseases of the pet pig

The focus of the section will be on diseases seen in pet pigs and thus will not cover reproductive problems. Most true pet pig owners do not breed from their animals. Many of the diseases seen in pig herds can be seen in pet pigs, but the prevalence and importance of these diseases has a different focus. Diseases of the elderly pig still remain elusive, are varied and frequently require generic knowledge from other monogastric species to be applied to these individuals.

Cardiac and endocrine diseases are rare in pet pigs. Commercial pigs are quite prone to developing endocarditis, secondary to sepsis.

Musculoskeletal: Lameness and overgrown feet are common causes of lameness. Lameness, specifically osteoarthritis is important in the older pig, particularly those of larger breeds. Osteomalacia has also been reported in some old, pet pigs. Ring blocks can be used for diagnostic anagesia to localise the cause of the lameness if the cause is not obvious on palpation.

Gastro-intestinal: The major presenting signs seen in pet pigs includes the acute abdomen, diarrhoea and weight loss. Pet pigs can develop gastric dilatation and volvulus and torsions of their spiral colon. There are a multitude of causes of diarrhoea in the pig including dietary, viral, bacterial and parasitic. Neoplasia, most commonly lymphoma and adenocarcinoma are seen in older pigs. The approach to the GI case will be similar to other species including biochemistry, faecal worm egg counts and culture, oral glucose absorption tests, abdominal ultrasound, gastroscopy and rectal mucosal biopsies.

Endoparasites can be problematic in the pet pig, especially if bought onto the premises as the eggs then contaminate often small areas. Endoparasites identified in pigs include Ascaris suis and Trichuris spp in young pigs and Hyostrongylus and Oesophagostomum in adult pigs. Metastrongylus (lungworm) can also be brought onto the premises. Ascarid eggs can survive in the external environment for up to 5 years.
**Respiratory:** This is an extremely common body system affected in the production animal, but is a much less common problem in the pet pig. Ascarid migration can lead to signs of coughing and occasionally respiratory distress when the larvae are in their migratory phase in growing pigs.

**Urinary:** Urolithiasis is seen in older female and young pigs. In the pet pig this is more likely if animals are being fed inadequate diets. Uroliths in pigs usually, but not exclusively contain calcium carbonate and as such will likely respond to urinary acidifiers. Pyelonephritis and cystitis are seen in pigs and can have grossly normal urine and normal rectal temperatures to showing signs of SIRS. Urinalysis is a valuable tool for these conditions.

**Dermatological diseases:** These are quite commonly identified in the pet pig. Diseases identified include sunburn, Sarcoptic mange (pruritus and crusting), the sucking louse Haematopinus suis leading to pruritus, various fly bites and associated hypersensitivity reactions, ringworm usually due to Trichophyton mentagrophytes and greasy pig disease (Staphylococcus hyicus). Again the approach to the skin case is as in small animals.

**Neurological:** The diseases seen in commercial pigs are very uncommon in the pet pig. Middle ear disease is reported in pet pigs as are aural haematomas often secondary to sarcoptic mange. In addition heat stroke can be seen in the summer if adequate shelter and shade is not provided.

**Metabolic disease:** Obesity is a common problem.

**Toxicities:** Pigs are very bright, inquisitive creatures and as such eat things they should not. Similar toxicities to those seen in small animals can be seen, including ingestion of metaldehyde and rat poison and consumption of anti-freeze. Assume that if a product is poisonous to a dog or horse, then it will be to a pig. Salt toxicity is seen in pet pigs secondary to disruption to the water supply and needs very careful management.

**Other:** Lymphoma is the most common neoplastic condition reported in pigs. Hypercalcaemia is seen much less commonly than in small animals with this condition.

In summary, the approach to the pet pig is very similar to that in small animals and the main differences are the differential diagnoses and their temperament. IV access is more problematic, but can be overcome with jugular cut-downs if catheterisation and IV fluids are required.

**References and further reading**


