

Obtaining clinically useful information

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What do you need to know?



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What do you need to know to treat the piglets?

- treatment objectives?
- drugs likely to be active?
- side effects & interactions?
- monitoring required?
- pharmacokinetics?
- dose?
- cost?
- do the benefits outweigh the risks?

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Drugs likely to be active?

- antiseptics
 - chlorhexidine
 - iodine
- antibiotics
 - penicillins
 - narrow spectrum
 - broad spectrum
 - cephalosporins
 - tetracyclines
 - etc, etc

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sources of info

1. scientific literature
2. textbooks
3. colleagues
4. www
5. drug companies
6. plus this course!

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Sources of info

- scientific literature
 - evidence based medicine
- colleagues
 - may be wrong
- textbooks
- www
 - beware of complete crap
- drug companies
 - IVS
 - MIMS
 - advertising

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Reading scientific papers to extract clinically useful info

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a digression on drug development

- synthesise compounds
- screen for activity on target
- screen for activity on other targets
- test in animal models
- pharmacokinetics
- animal toxicity testing
- phase 1 trials (healthy target species)
- phase 2 trials (sick target species)
- phase 3 trials (large nos. sick target species)
- (phase 4 trials - post marketing surveillance)

Types of papers

- **Basic science papers**
 - Usually written by scientists with no idea about clinical problems
- **Veterinary clinical trials**
 - Science is usually conspicuously absent
- **Human clinical trials**
 - Usually of limited relevance

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methods

- **What are the authors trying to show?**
 - Does the experimental design allow them to do this?
- **Is the measure of outcome appropriate?**
 - Observer bias, drug effects, etc
- **Are there suitable controls?**
- **Were drug doses suitable?**
- **Are the numbers sufficient?**

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results

- **Are the results of the study valid?**
 - randomisation
 - all animals accounted for
 - statistically significant?
- **What are the results?**
 - size of treatment effect - clinically significant?
 - precision

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discussion

- **Are the conclusions justified by the data?**
- **How do the results compare to other studies?**
- **How do the findings relate to veterinary practice in NZ?**
- **Will the results help me in caring for my patients?**
 - benefits worth the potential harm?

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“It has been clearly shown that drugs acting at the ORL1 receptor are good analgesics *in vitro*”

- Faber et al., 1996, *Br J Pharmac*, 119, 189 - 190

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When reading papers be sceptical!!!

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The screenshot shows a PubMed search results page. The search term is 'greasy pig disease'. The results are sorted by 'Recently Added' and show 1 to 20 of 86 results. The first three results are:

1. An investigation of exudative epidermitis (greasy pig disease) and antimicrobial resistance patterns of *Staphylococcus hyicus* and *Staphylococcus aureus* isolated from clinical cases. Park J, Friendip RM, Pajak Z, Weese JS, Dewey CE. *Can Vet J*. 2013 Feb;94(2):138-44. PMID: 23946036 [PubMed - in process] Free PMC Article [Related citations]
2. Staphylococcal skin disease in livestock. Foster AP. *Vet Dermatol*. 2012 Aug;23(4):342-51. e63. doi: 10.1111/j.1365-3164.2012.01003.x. Review. PMID: 22923580 [PubMed - indexed for MEDLINE] [Related citations]
3. Detection and molecular characterization of porcine circovirus type 2 (PCV2) from piglets with exudative epidermitis in Uruguay. Ramon N, Mirazo S, Castro G, Arboza J. *Rev Vet Res*. 2012 Oct;6(2):194-5. doi: 10.1016/j.rvr.2012.01.006. Epub 2012 Jan 30. PMID: 22925115 [PubMed - indexed for MEDLINE] [Related citations]

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textbook

Treatment

Experimentally infected piglets respond favourably to a topical application of cloxacillin 10 000 units/g of lanolin base and 1% hydrocortisone combined with parenteral cloxacillin (6). Treatment must be administered as soon as the lesions are visible. Naturally occurring cases in piglets under 10 days of age respond poorly while older pigs recover with a skin wash using a suitable disinfectant soap.

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The Pig Site

News & Alerts

Treatment

ThePigSite PI

Search:

Section: (Managing)

Greasy Pig Disease

- Determine the antibiotic sensitivity and inject affected piglets daily for 5 days, or on alternate days with a long-acting antibiotic to which the organism is sensitive to.
- Antibiotics include: amoxycillin, OTC, ceftriaxone, gentamycin, lincomycin or penicillin.
- Topical application of antibiotics can also be of use. Novoblochin, an antibiotic used for treating mastitis in dairy cows, can be mixed with mineral oil and sprayed onto the skin or the piglets dipped into a solution of it.
- Piglets become very dehydrated and should be offered electrolytes by mouth.
- Ensure there are no mange problems in the herd. The mange mites damage the skin and allow *Staphylococcus hyicus* to enter.
- Long-acting injections can be given 2 to 3 days before the first signs are likely to appear as a method of prevention. Use either long-acting amoxycillin or OTC if indicated.
- In severe outbreaks an autogenous vaccine can be prepared from the organism and sows injected twice 4 and 2 weeks prior to farrowing to raise immunity in the colostrum. This has proved successful on a number of farms where disease has appeared in both the sucking and weaned pigs.
- If the problem is occurring in gilt litters, cross suckling these piglets using older sows at birth for 4 or 5 hours can be of value.

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How to treat the piglets?

- treatment objective:
 - cure the piglets as cheaply as possible
- think about:
 - will it work?
 - is it safe?
 - is it practical?
 - (cost)

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