How to write a scientific writing

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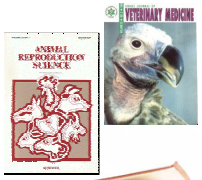
What is the scientific articles?

- Original article (นิพนธ์ต้นฉบับ)
- Short communication
- Note
- Case report
- Review article



FEMS

Canadian Journal of Veterinary Research / Revue Canadienne de Recherche Vétérinaire

European Journal of EDUCATION

IRANIAN JOURNAL OF VETERINARY RESEARCH

เชียงใหม่สัตวแพทยสาร Chiang Mai Veterinary Journal

Scientific format

- There are rigid structure in scientific writing
- The strict format helps to insure that at whatever level a person reads your paper, they will likely get the key results and conclusions.

Reader Expectations

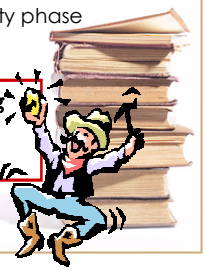
- Left → Right
- Subject → verb
- Old information → new finding
- Course → effect
- 1 paragraph, 1 topic
- Topic VS context

A>B. B>C, C>D vs D>A, A>C, B>C

Reader Expectations

- Information is interpreted more easily and more uniformly if it is placed where most reader expected to find it.
  - Beware of subject-verb interruption
  - Past tense, active voice, and brevity phase

The goal is to report your finding and conclusion clearly, with as a few words as necessary.



What does Scientific Report expect?

- A rare or unreported feature, condition, complication : Case report
- A novel item : Full article

If your report is published it will be an asset to your CV.

How to start a case report

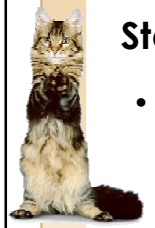
- **Consults a senior doctor what cases are suitable for publication**
- Search relevant literature—PubMed, Medline,Science direct and even search engines like Google
- **A standard textbook or appropriate journal**

Groundwork

- Consent
- It is also polite to ask permission from the Vet in charge of the patient's management.

How to collect information related to the case

- OPD card: history, examination findings, results of investigations with dates, and operative findings
- Get copies—do not take the originals
- Use a digital camera for your personal copies of radiographs and clinical photographs.

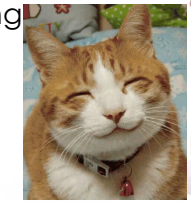


Start to write a case report.

- If you come across something unusual, discuss it with a consultant, particularly one who is keen on research.

Stages in writing a case report

- Finding a rare case
- Literature search : **Collecting information related to the case, including consent.**
- Summarising and writing
- Revising and editing



Before writing an original article

- Organize the information you wish to present
- Documentation system
- Outline …(ordering the data)
  - **What is the topic?**
  - **Why is it significant?**
  - **What background material is relevant?**
  - **What is the study purpose?**
  - **What plan will best support my purpose?**

General format of scientific papers

Experimental Process	Section of paper
ทำอะไรไป	Abstract
สำคัญอย่างไร	Introduction
พิสูจน์อย่างไร	Materials and Methods
พบอะไร	Results
หมายความว่าไง	Discussion
ใครมาช่วยงานบ้าง	Acknowledgement
อ้างงานของใคร	Literature cited
ข้อมูลพิเศษ	Appendix

General format of scientific papers

Original article

- Abstract
- Introduction
- Materials and Methods
- Results
- Discussion
- Acknowledgement (optional)
- Literature cited
- Appendix (optional)

Case report

- Abstract
- Introduction
- Case history
- Discussion
- Conclusion
- Literature cited

Title and Authorship

Title

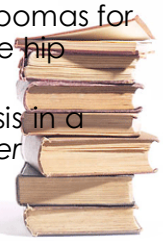
- ❑An advertisement
- ❑The simplest statement
- ❑Be specific, concise

Authorship

- ❑Author should have make a substantial intellectual contribution.
- ❑Corresponding author.

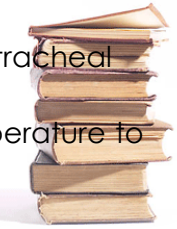
Samples :

- Onion poisoning in a dog.
- Daffodil toxicosis in an adult cat.
- Systemic Candidiasis in a dog, developing Spondylitis.
- Liposuction-removal of giant lipomas for weight loss in a dog with severe hip osteoarthritis.
- Infection of a total hip prosthesis in a dog caused by *Achromobacter xylosoxidans*.



Have a guess!?!

- Zoonotic *Brachyspira pilosicoli* in two Thai healthy dogs.
- Thoracoscopic-guided lung biopsy in dogs.
- Tracheal necrosis following tracheal intubation in dogs.
- Effect of humidity and temperature to cat behavior.



Abstract

Original article

- Question you investigated
- Experimental design and methods (briefly)
- Major finding including quantitative results, or trends
- A brief summary and conclusion

Case report

- Problem of patient and how rare or importance
- Major finding including history, examination
- Interpretation of the finding
- An practical idea lead to research or awareness

Introduction and objective | Case presentation | Conclusion
Materials and methods | Results | Discussion

FULL PAPER *Bacteriology*

***In vitro* Susceptibility and a New Point Mutation Associated with Tylosin-Resistance in Japanese Canine Intestinal Spirochetes**

Nuvee PRAPASARAKUL[1)], Kozo OCHI[2)] and Yoshikazu ADACHI[1)]*

Introduciton and objective | Materials and methods

(Received 5 March 2003/Accepted 5 August 2003)

ABSTRACT. The *in vitro* susceptibilities of six commonly used antimicrobial agents against 29 isolates of intestinal spirochetes isolated from dogs in Japan were examined by the agar dilution technique. In addition, the genetic basis of tylosin resistance in *in vitro* selected resistant mutants of two reference strains and three tylosin-susceptible field isolates obtained by three successive subcultures on blood agar containing 1 μg/ml of tylosin was investigated. Carbadox was the most active (MIC: < 0.00625) of all the antimicrobial agents. Although all the isolates were susceptible to tylosin, some were resistant to erythromycin. Tiamulin, lincomycin and dimetridaz ole were also very active against the isolates. All the resistant isolates did not harbor any plasmids. *In vitro* selected tylosin-resistant mutants of previously tylosin-susceptible isolates showed a new mutation in which their adenine at the base position equivalent to 2,062 of 23S rDNA of *Escherichia coli* has been replaced by cytosine. These findings may both provide guidance towards the proper choice of antimicrobial agents for the treatment of canine intestinal spirochetosis, and add to the understanding of the genetic basis of tylosin resistance.

KEY WORDS: Conclusion | Results and discussion

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CASE REPORT

Infection of a total hip prosthesis in a dog caused by *Achromobacter (Alcaligenes) xylosoxidans*

Introduction

A four-year-old male, neutered Labrador retriever was presented with progressive left hindlimb lameness 10 months following total hip replacement. Radiography revealed changes consistent with infection and culture of joint fluid from the left coxofemoral joint revealed *Achromobacter (Alcaligenes) xylosoxidans*. The prosthesis was removed. Culture of the acetabular cup confirmed *Achromobacter xylosoxidans*. *Achromobacter xylosoxidans* is an uncommon but serious cause of nosocomial epidemics in hospitals for human beings. To the authors' knowledge, this is the first report of total hip prosthetic infection with *Achromobacter xylosoxidans*. Little is reported about its pathogenicity in human beings and the authors failed to retrieve any reports of its clinical significance in animals.

fection in immunocompr
munocompetent hosts
others 1996, Granowitz

Case history

CASE HISTORY

A four-year-old male, ne
previously referred, w

Discussion

sive to non-steroid a
drugs. Examination reve
be 2/10 lame in the left
was present with manip

Conclusion

Introduction for a case report

- ❑รัดกุม สะดุดตา และดึงดูดความสนใจ
- ❑ Describe the subject matter
- ❑ State the purpose of the case report
- ❑แสดงข้อมูลพื้นฐานที่จำเป็นและเกี่ยวกับกรณีปัญหาที่พบ
- ❑เป็นกรณีที่มีคุณค่าและน่าศึกษาที่ทำการพิสูจน์ให้ได้ด้วยการสืบค้นเอกสาร
- ❑ Introduce the case to reader
- ❑ Make the introduction brief and less than 3 paragraph

Introduction for original article

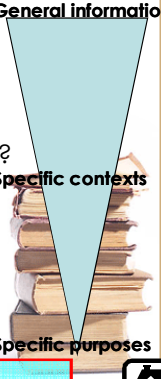
- What was I study?
- What did I know about it?
- Why was it an important question?
- How will the study advance our knowledge?

General information

Specific contexts

Specific purposes

LOGIC LOGIC LOGIC



Case History: Please do

- อธิบายเชิงบรรยายเกี่ยวกับ case นั้น
- ให้ข้อมูลเกี่ยวกับเพศ พันธุ์ อายุ น้ำหนัก ลักษณะพิเศษ
- บรรยายข้อมูลปัญหาต่างๆ
  - ข้อมูลการป่วยในปัจจุบัน
  - ข้อมูลประวัติการป่วย
  - ข้อมูลทั่วไปที่เกี่ยวกับการเลี้ยง อาหาร และการรักษาที่ผ่านมา
  - ประวัติการทำวัคซีน การแพ้ยา การตรวจทางกายภาพและ lab ต่างๆ
  - ข้อมูลยาที่สัตว์ได้รับ ขนาดยา ความถี่ route ระยะเวลา
  - ตรวจสอบความถูกต้องของวิธีที่ได้รับการรักษา
  - อย่าลืมถามความสมัครใจของเจ้าของในการลงรูปภาพ

FIG 1. Lateral radiograph of the trachea showing moderate narrowing as it passes through the thoracic inlet

FIG 1. Immediate postoperative ventrodorsal radiograph of the left hip following implantation of a Biomechtix-cemented total hip prosthesis

FIG 2. Ventrodorsal radiograph of the left hip joint at 10 months postoperatively. Note the marked widening of the bone-polymethylmethacrylate interface around the acetabular component (open arrows) and the loss of cancellous bone (solid arrow)

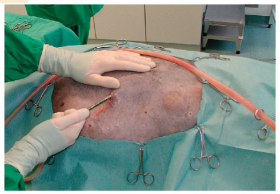


FIG 3. The suction tip is introduced into the lipoma through a small stab incision at the most distal/ventral aspect of the lipoma. Rhythmical movements of the tip in and out of the lipoma produces small fat globules, which can easily be aspirated through continuous suction

FIG 1. Appearance of the right forepaw at initial presentation

Case history : Please do not

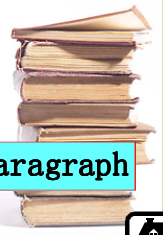
- ข้อมูลส่วนตัวของเจ้าของสัตว์
- อธิบายการตรวจสอบทางพยาธิวิทยาทั้งหมด
- อ้างอิงวิธีการที่เป็นที่รู้จักอยู่แล้ว เช่น การถ่าย x-ray, routine hematology
- ถ่ายรูปโดยไม่ได้รับอนุญาต
- ใช้รูปถ่าย ฟิล์มหรือข้อมูลอื่นใดของผู้อื่นโดยมิได้รับอนุญาต

Discussion for a case report

- แสดงความแตกต่างของ case ที่พบกับข้อมูลที่ผ่านมา
- ข้อพิสูจน์ที่ได้จาก case ที่พบกับ case อื่นๆ
- ยืนยันความถูกต้องของกรณีศึกษานั้น
- แสดงข้อจำกัดของการศึกษาแบบ case report และเสนอแนะแนวทางแก้ไข
- ย้ำให้เห็นในแง่เป็นกรณีที่ไม่เคยพบหรือพบน้อยมาก

Conclusion for a case report

- ใช้ข้อสรุปที่ได้รับพิสูจน์อย่างถูกต้อง
- ข้อแนะนำจากกรณีศึกษา
- ข้อมูลที่ได้ในครั้งนี้จะนำไปประยุกต์ใช้ให้เกิดประโยชน์แก่สัตวแพทย์หรือผู้อ่านอย่างไร
- ประเด็นที่นำไปสู่งานวิจัยอย่างเป็นรูปธรรม



Brief and not exceed one paragraph

Materials and methods

- A good place to start
- A chronologic order: **Material > Protocol > Data analysis**
- Should be described in sufficient detail to permit another investigator to repeat your experiments
- Not a lab protocols, No date and location

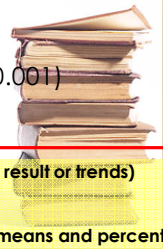
✓Subject used, pre-exp. Handling and cares
✓Study site/ location
✓Experimental or sampling design
✓Protocol for collecting data (experimental procedure)
✓How the data were analysed

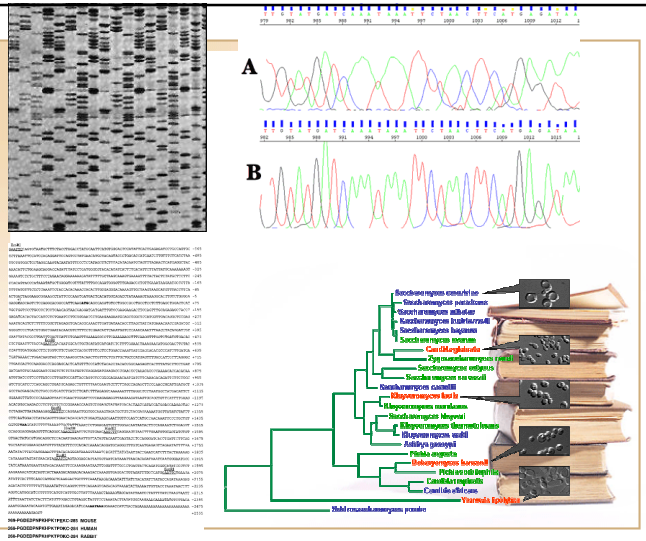
Results

- Present your key results in an orderly and logic sequence without interpretation.
  " The key results must answer your question"
- Table legend go above and figure legend go below.
- X is higher than Y (t-test, $p<0.001$)
- X is significantly higher than Y ($p<0.001$)

DO NOT

Repeat each value from Figure or Table (only state the key result or trends)
Present the same data on both Table and Figure
Report raw data values when they can be summarized as means and percents

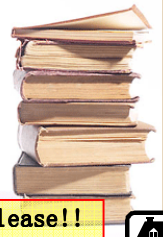




Result: content

- Why you did the exp?
  In order to the determine whether..
- How you did it?
  PCR analysis was performed as described, using the specific primer…
- Presentation of the data
  (refer to Fig and Table)
- Conclusion from data
- No the interpretation…please!

Passive Voice is OK,....Past tense please!!



Discussion: Please Do

- Interpret and explore the finding, relate your work to others
- State your conclusion and explain why they are novel and important
- Be organized, logical and keep it short

Table 1. Minimum inhibitory concentrations (MIC) of six commonly used antimicrobial agents against 29 canine intestinal spirochetes in Japan

Antimicrobial agents	MIC values (μg/ml)	
	Range	For ≥ 90% of the isolates
Quinoxalines		
Carbadox	<0.00625	<0.00625
Macrolides		
Tylosin	0.78–3.13	3.13
Erythromycin	0.2–6.25	3.13
Pleuromutilins		
Tiamulin	0.2–12.5	6.25
Lincosamides		
Lincomycin	0.39–1.56	1.56
Nitroimidazoles		
Dimetridazole	≤0.1–0.39	0.2

<, Lower than the value of 0.00625 μg/ml.
≤, MIC value of 0.1 μg/ml and lower.
>, Higher than the value of 100 μg/ml or 200 μg/ml.

Discussion: Please Do not

- A repeat or rearranged the introduction
- Restate the result, use "bridge sentences" to relate the result to interpretation
  - **The increased ADG in the treatment group suggested that…..**
- Introduce the new result
- Over-claiming of the observation

Guide question to answer

- ผลการทดลองแสดงคำตอบให้กับข้อสมมติฐาน? แปรผลสิ่งที่พบอย่างไร?
- สิ่งที่พบสอดคล้องหรือแตกต่างกับงานก่อนหน้านี้หรือไม่? ทำไม?
- อะไรที่เป็นสิ่งใหม่หรือความเข้าใจใหม่จา
- อะไรที่ควรวิจัยในขั้นตอนต่อๆไป?

Acknowledgement: กิตติกรรมประกาศ

- For those who significantly help in thinking up, or carry out the work
- For those who provided materials and reagents
- Outside reviewer of the draft manuscript
- Source of funding

Brief and never flowery

ขอขอบคุณ รศ.สพ.ญ.ดร.สันนิภา สุรทัตต์ ที่เอื้อเฟื้อข้อมูล

Thank You For Your Attention

Adventure is not in the guidebook and Beauty is not on the map. Seek and you shall find.