B-SAP.1 Summary Essay

Word Count 1478

**Justify your choice of cases selected for the B-module essays and describe any changes in your approach to clinical practice following study of Module B.**

Through my studies for the B-module essays I have become a more confident veterinary surgeon and with this new confidence I am enjoying clinical practice more.

My surgical case was about a Labrador with cranial cruciate ligament (CrCL) partial rupture. I chose this case because it allowed me to study a common condition which has a number of treatment options. In helping owners come to a decision on their surgical options I can now advise my clients based on evidence based medicine rather than my own limited experience. I was surprised to discover that lateral suture stabilisation has an equally good outcome when compared to tibial plateau levelling osteotomy (TPLO) when done by the same surgeon (Conzemius et al. 2005) and in a literature review, no one technique can be favoured in the treatment of CrCL rupture (Aragon and Budsberg 2005). Before my research I was unaware that 10% of cases suffer a meniscal tear after surgery (Harasen 2011) so therefore I was not forewarning owners of this complication.

The article about physiotherapy by Marsolais et al. (2002) had the most impact on my care of cruciate patients since submitting my essay. I was neglecting the whole area of rehabilitation and this was affecting surgical outcome. Subsequently, I have prepared discharge instructions which contain information on physiotherapy and exercise regimes aimed at maintaining muscle and range of motion within the joint. I have found that owners are

very compliant and motivated and the follow up care has created a better rapport with clients while dogs return to function sooner.

I found it interesting that there was equal amount of marks allocated to discuss the preparation of the theatre and patient as there was to discussion of the surgical procedure. I told this to our nurses and I found this was a powerful motivator for them and helped instil the importance of their role in a successful surgical case.

At first I was a little frustrated at the idea of writing an essay on radiological protection principles and would have rather discussed exciting cases diagnosed through radiography. However, I soon realised that by going back to the basic principles of radiography, I have adopted a more standardised approach to radiography and I am much better equipped to critically appraise an x-ray and take steps to improve the image quality. Basic errors such as incorrect positioning and poor exposure choice were being repeated daily in my practice to the point that they had become standard and not even recognised by me as a clinician. I now look at all x-rays with a fresh pair of eyes and review the basics first before looking for pathology. I have had the confidence to pass on my knowledge and share it with the rest of the practice so that there now is a philosophy where quality control procedures are taken very seriously by all members involved in diagnostic imaging.

My anaesthesia case was about a Yorkshire terrier with heart disease and severe dental disease. This was a challenging high risk anaesthetic which demonstrated the importance of pre-anaesthetic stabilisation of the patient and it allowed me to demonstrate the importance of multi-modal analgesia and how, when analgesia is sufficient, it allows one to reduce the amount of inhalant anaesthetic therefore reducing the anaesthetic risk.

Since reporting on the case I am tailoring my pre-medication choices to each individual case. It has become habit for me to try to foresee the most likely complications for each individual patient during general anaesthesia so that I can prepare myself and my nurse for our response. Once again, it was through reviewing the basics of anaesthesia that I gained the most. I had been guilty of underestimating the effects of hypothermia during anaesthesia and I was not giving due regard to the risk of post induction hypoxaemia (Hughes 2008). Simply by pausing to pre-oxygenate a patient I have avoided stressful moments during a difficult intubation.

I found the pharmacology articles provided in learning support were very helpful in my daily work as a clinician. I now have a better understanding of how and when to make dose adjustments in hepatic or renal disease or in immunocompromised patients. The feedback I received for my therapeutics report has helped improve my level of scientific writing and my referencing in subsequent reports has improved.

My discussion on Phenobarbital (Epiphen®) allowed me to demonstrate my understanding of the importance of drug interactions and how this can influence drug efficacy and how one needs to consider issues such as protein binding in polypharmacy situations.

I chose meloxicam (Metacam ®) 0.5mg/ml oral suspension for cats as my first therapeutics case report because non steroidal anti-inflammatory (NSAID) use remains one of the most common causes of adverse drug reactions (Hampshire, et al. 2004) and cats have an unfortunate reputation for NSAID toxicity (Taylor and Robertson 2003). Chronic pain in cats was an issue I wanted to address and I now feel more comfortable in prescribing meloxicam. Meloxicam became licenced for chronic musculoskeletal disorders in cats in

Europe in June 2007 (Lascelles and Robertson 2010). It was very interesting to read that meloxicam did not reduce the lifespan of stable, hydrated cats with chronic kidney disease (Gowan, et al. 2012).

I wanted to include an antibiotic in my drug choices because I feel that without understanding antibiotic pharmacokinetics it is very difficult to prescribe antibiotics responsibly. I now understand the concepts behind pharmacokinetic-pharmacodynamic integration and I can evaluate the key indices which allow me predict that my antibiotic choice will be effective and not promote resistance whether this is based on data from a culture report or from package data sheets. I wanted to discuss cefovecin (Convenia ®) as cephalosporin use in veterinary medicine is under scrutiny by the European Union (BIOHAZ 2011). Owner compliance with dosing schedules, especially in cats, is very difficult to achieve. Cefovecin with its long half life allows me to ensure adequate concentrations are achieved in tissues for the correct length of time and thus reduces the risk of resistance.

Before studying pimobendan (Vetmedin ®) I struggled to make an informed choice regarding cardiac drugs for patients. I worried that I was being influenced by drug sales representatives and anecdotal evidence. Through reviewing the literature I am confident that I am making sound clinical decisions based on evidence based medicine as there are comprehensive studies to support its use (Haggstrom et al. 2008, Fuentes et al. 2002). The American College of Veterinary Internal Medicine published guidelines on treatment of cronic valvular heart disease, (Atkins and Haggstrom 2012), now provide me with a framework for decision making when presented with clinical cases.

The word limit in the therapeutics essay was a challenge. It is a skill to condense the most relevant information into five hundred words; a skill that translates into the consult room where the most pertinent information must be communicated concisely. I have no doubt that owner compliance to treatment protocols has been enhanced as has my ability to explain the potential adverse effects of drugs as I can communicate with more authority on the issues.

I chose my medicine case because I think it was a good example of how important it is to keep an open mind to all the possible differentials. Originally it looked like the cat simply had pancreatitis based on a quantitative fPLI result. This was a false positive and if I had stopped diagnostic tests and tried to just treat for this disease I would have not have achieved a successful outcome. The feedback I received in my essay review was an invaluable learning tool. It provoked me to study the issue of the sensitivity and specificity of tests. This has helped me in broader terms with medical cases as I now make more rational decisions on which tests to use as screening tests (high sensitivity) and which tests to follow up with if the screening test had yielded a positive result (Hahn and Overley 2010).

While I have always enjoyed challenging medical cases, I knew there were gaps in my knowledge and I also struggled to approach a case in a logical and structured way. By enrolling on the course on logical clinical problem solving provided by the Royal Veterinary College I now have a template into which I can break down a complicated case. Once I approach a challenging case in this way I find that I am asking myself the right questions about the case which leads me to do the most relevant tests. While I still do not know everything

about medical cases I feel that I know what questions to ask myself and where to go to find the answers.

I look forward to doing more medicine case reports in the C modules and I hope that my rate of learning continues to grow at its current exponential rate.

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