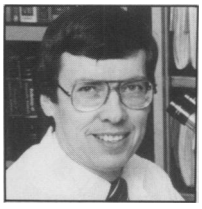
Debunking the "information explosion" myth



As I've noted previously (1), there is continuing wailing and gnashing of teeth by some about the impossibility of keeping up with the so-called "information explosion" in biomedical science. It has recently been estimated (2) that two million journal articles are published per year in the biomedical area, and that if you attempted to keep up with this entire subject area by reading two articles per day, you would be 55 centuries behind in your reading after only one year!

Obviously, we all specialize to one degree or another, and our interests become restricted to areas with more immediate application to our daily lives, despite our best intentions of "keeping up" with the literature on a broad front. This point is well made in a recent article by Pete White (3), reprinted in this issue of the CVJ. His conclusion, with which I strongly agree, is that when you read only scientifically valid and useful literature in your area of interest, the veterinary literature looks much less formidable. He notes that perusing a surprisingly small number of journals will suffice to keep one well informed; reviewing one journal per week would be adequate for most people. I was pleased to see that, of the journals cited in his CONSULTANT database, the CVJ ranked in the top 10 for both small animal and large animal citations (4). Of course, journal reading must also be supplemented by recent textbooks, and possibly by computerized databases (3).

As self-governing professionals, we assume the duty of keeping ourselves current, but this process has not been well formalized in the past. I think that one of the challenges to today's educators is to guide students in developing their own individual plans for lifelong education (more on this subject this fall). Undergraduate training must include active use of the primary literature of science (peer-reviewed journals), as well as textbooks and computerized databases. Also, not just reading, but *critical* reading, of the literature must be emphasized (5). Students, and intern graduate veterinarians, must not be scared away by misguided statements about the impossibility of mastering the information explosion. If good habits of self-education are established in undergraduate programs, those habits should persist for a lifetime.

Grant Maxie

References

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2. Haynes RB, McKibbon KA, Fitzgerald D, Guyatt GH, Walker CJ, Sackett DL. How to keep up with the medical literature: 1. Why try to keep up and how to get started. Ann Intern Med 1986; 105: 149-153.
3. White ME. Let's stop loose talk about the "information explosion". J Vet Med Educ 1988; 15: 25-26.
4. White ME. An analysis of journal citation frequency in the CONSULTANT data base for computer-assisted diagnosis. J Am Vet Med Assoc 1987; 190: 1098-1101.
5. Oxman AD, Guyatt GH. Guidelines for reading literature reviews. Can Med Assoc J 1988; 138: 697-703.

Démystifions « l'explosion de l'information »

Ainsi que je l'ai déjà fait remarquer (1), certains ne cessent de gémir et de grincer des dents parce qu'ils n'arrivent pas à suivre le rythme de ce que l'on a qualifié « d'explosion de l'information » dans les sciences biomédicales. Selon des estimations récentes (2), les revues publient chaque année deux millions d'articles dans le domaine biomédical, et si l'on essayait de se tenir au courant de la totalité de ce domaine d'intérêt en lisant deux articles chaque jour, on serait en retard de 55 siècles dans ses lectures après une seule année!

De toute évidence, nous nous spécialisons tous dans une certaine mesure, et nos centres d'intérêt finissent par se limiter à des domaines qui s'appliquent plus immédiatement à notre quotidien, malgré toutes nos bonnes intentions de nous « tenir à jour » de ce qui se publie sur un plan plus large. C'est ce qu'a très bien exposé Pete White (3) dans un article récent que nous reproduisons dans cette livraison de la Revue. Il conclut, et je suis tout à fait d'accord avec lui, que si l'on ne lit que les articles ayant une valeur scientifique et une utilité dans son domaine d'intérêt, la littérature vétérinaire a l'air bien moins formidable. Il fait remarquer qu'il suffit de parcourir un nombre étonnamment peu élevé de revues pour rester bien informé; pour la plupart des gens, il suffirait qu'ils examinent une revue par semaine. J'ai été heureux de constater que, parmi les revues mentionnées dans sa base de données CONSULTANT, la RVC se plaçait parmi les 10 premières pour les citations concernant tant les petits animaux que les grands (4). Bien entendu, en plus de la lecture

de revues, il faut prendre connaissance de manuels récents, et peut-être y ajouter des bases de données informatiques (3).

Comme membres d'une profession libérale, nous avons le devoir de nous maintenir à jour, mais ce processus n'a pas jusqu'ici fait l'objet d'une formalisation très rigoureuse. Je pense que l'un des défis actuellement proposés aux éducateurs consiste à guider les étudiants vers le développement de leurs propres plans individuels en vue d'une éducation à vie (sujet sur lequel nous reviendrons cet automne). Au premier cycle, la formation doit comporter l'utilisation active de la documentation scientifique primaire (revues avec articles agréés par les pairs), de même que des manuels et des bases de données informatiques. En outre,il faut insister sur la nécessité non pas seulement d'une lecture, mais d'une lecture *critique* (5). Il ne faut pas effrayer les étudiants et les vétérinaires diplômés faisant leur internat par des déclarations intempestives sur l'impossibilité de maîtriser l'explosion de l'information. Si l'on implante de bonnes habitudes d'autoformation dès les programmes du premier cycle, ces habitudes devraient rester toute la vie.

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Références

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LETTER TO THE EDITOR

LETTRE À LA RÉDACTION

Hypothyroidism and increased bleeding tendency

Dear Sir:

I would like to provide additional information concerning a brief communication recently published in the Canadian Veterinary Journal: Johnstone IB, MacLeod M. Hemostatic studies in a Newfoundland dog with idiopathic epistaxis (Can Vet J 1988; 29: 62-64).

We postulated that the unusual fluctuations in plasma Factor VIII/von Willebrand factor (FVIII/vWF) in this Newfoundland dog might have been secondary to some other disorder. Hypothyroidism in man is sometimes associated with an increased bleeding tendency. Variable hemostatic abnormalities including specific factor deficiencies and impaired platelet function have been documented (1,2). In some patients, laboratory profiles typical of von Willebrand's disease (vWD) have also been described (1,3). This acquired form of vWD has generally been corrected through treatment for the thyroid disorder (4). An association between thyroid disease and vWF deficiency also occurs in dogs (5,6). This is therefore an important consideration when screening for, or managing, dogs with inherited vWF deficiency.

Although the Newfoundland dog showed none of the clinical signs commonly associated with hypothyroidism (7), a thyroid stimulating hormone (TSH) stimulation test was performed at the time of the third hemostatic evaluation. The patient had a normal basal T4 of 46 nmol/L with a post stimulation value of 111 nmol/L (a 2.4 fold increase). A doubling of the T4 activity is usually considered to be a normal response (8). Based on these results, we concluded that hypothyroidism was not likely a complicating factor in this patient.

Recently the validity of "relative increase in T4" in the interpretation of the TSH stimulation test has been challenged. Larsson (8) has suggested that the best accuracy in the diagnosis of primary hypothyroidism is obtained using the linear discriminant formula $K = 0.5 \times$ basal T4 + increase in T4 following TSH (T4 in nmol/L). All dogs with K value of < 15 were deemed to be hypothyroid, while those with a K value of > 30 were normal or treatment non-responsive. In reviewing the data from our Newfoundland dog, a K value of $+88$ was obtained.

Although thyroid dysfunction seems unlikely to be a contributing factor in the hemostatic abnormalities seen in our patient, one cannot rule out the possibility of early immune thyroiditis (9). The TSH stimulation test measures thyroid reserve and may be normal in the early stages of this autoimmune disease. An assay for antithyroid antibody was not done on this patient but in retrospect might have been useful in totally ruling out thyroid disease as a factor.

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