LifeLabs® Medical Laboratory Services

Inside Diagnostics

CLOSTRIDIUM DIFFICILE ASSOCIATED DIARRHEA (CDAD)

Clostridium difficile associated disease has increased in frequency and severity throughout North America and Europe over the last 5 years. Strains of *C.difficile* producing toxins A and/or B are associated with CDAD. The clinical presentation is a continuum that includes asymptomatic carriage, diarrhea, colitis, pseudomembranous colitis, and fulminant colitis. Recurrence is one of the most frustrating and challenging complications of CDAD occurring in 25-30%.

Recent reports of a more virulent strain causing epidemics is due to the emergence of the NAP1 epidemic strain, alternately known as ribotype027 or the hypervirulent strain. This strain carries genetic mutations in the tcdC toxin regulator gene which causes over production of toxins compared to the regular strain and mutations leading to high level quinolone resistance. In Canada, increases in CDAD frequency and mortality were first widely reported in 2004 in Quebec, and then an increase was noticed in all other provinces. According to the Canadian Nosocomial Infection Surveillance Program (CNISP) preliminary results from January 1 to April 30, 2007 showed an incidence of 5.53/1000 patient admissions in Ontario.

The major risk factor for CDAD is antibiotic therapy. Almost all antimicrobial agents except for aminoglycosides have been associated with CDAD. Several studies have found that fluoroquinolones are more strongly linked to CDAD than any other antimicrobial agents. Other risk factors include age greater than 65 years, severe underlying illness and longer hospital stay.

Laboratory Detection:

Only toxigenic strains of *C.difficile* produce clinical disease therefore laboratory investigation is based on detection of toxin A/B. Enzyme immunoassays (EIA) are the most commonly used assays with a reported sensitivity and specificity of 90.7-96.3% and specificity 87.0-97.4% respectively.[7] If a single test is negative, a second specimen should be sent if CDAD is still suspected.

Specimens from community physicians are referred to the Public Health Laboratories (PHL), where they test stool for *C. difficile* toxin by EIA. Routine tests cannot discriminate NAP1 strain. Typing if required is performed at the National Microbiology Laboratory.

Stool specimens that are formed are rejected. However if the patient has ileus and CDAD is suspected, a formed stool will be accepted providing the clinician provides this information on the PHL requisition. Testing is not recommended in patients <1 year. Neonates have a high rate of asymptomatic carriage (5% to 70%); however, are not likely to develop symptomatic disease. Please refer to PIDAC *C. difficile* guidelines.[5]

Management of the patient:

Important principles include stopping the offending antimicrobial agent if possible. Metronidazole is recommended in patients with mild disease. For patients with severe disease defined as severity score ≥ 2 (1 point each for: age>60 years, T >38.3°C, albumin <25 g/l, WBC >15,000 cells/mm^3, 2 points for presence of pseudomembranous colitis or hospitalization in ICU) treatment with oral vancomycin is recommended. Consultation with a specialist is recommended for patients with severe disease. Patients must be followed closely for any signs of clinical progression during therapy and for recurrence after therapy.[6]

Infection Control measures include contact precautions, hand hygiene and environmental cleaning to prevent transmission between patients.[5]

As of September 30, 2008, all Ontario hospitals will be required to report *C.difficile* cases to the Ontario Ministry of Health. ■

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REFERENCES:

1. Labstract ,Ontario Public Health Laboratories August 2008 http://www.health.gov.on.ca/english/providers/pub/pub_menus/pub_labs.html
2. Clinical Microbiology Newsletter Vol 3, No.12, June 15, 2008.
3. Cleveland Clinical Journal of Medicine ,vol 37, No. 2,Feb 2006.
4. The Canadian Nosocomial Infection Surveillance Program (CNISP) at www.publichealth.gc.ca
5. Provincial Infectious Diseases Advisory Committee (PIDAC) Nov 2007 http://www.health.gov.on.ca/english/providers/program/infectious/pidac/pidac_mn.html
6. Clinical Infectious Diseases 2008,46:S32-42
7. Journal of clinical microbiology,Aug2007; vol45, No.8, p2737-2739

PATIENTS' ACCESS TO LABORATORY RESULTS UNDER THE PERSONAL HEALTH INFORMATION PROTECTION ACT (PHIPA)

In most circumstances an individual patient's right to access and obtain copies of laboratory reports under Ontario privacy legislation is via the clinician who ordered the tests.

This is not the case if the ordering health care practitioner has directed the laboratory to provide the information directly to the patient.

LifeLabs has an effective logistical system designed to deliver reports to the clinicians we serve. Clearly this system is not designed to deliver to individual Ontarians so we must implement a separate process to securely deliver reports to patients when an ordering clinician has directed us to do so. Please note we can deliver only complete reports not selected test results.

This delivery must be via Canada Post to a complete address provided by the individual.

Please note the OHIP Laboratory requisition is not designed for or sufficient for this purpose, so LifeLabs has produced a two-part form to be completed first by a clinician to direct release of a report, then by the patient to confirm demographic information and certify a complete and accurate mailing address by providing this and signing the form. This form can be obtained at LifeLabs.com click on Laboratory Services then Supplies for physicians.

Instructions for delivery of the request are included on the form. LifeLabs will deliver the report within the prescribed timeline and in order to recover administrative costs will require the patient to pay $25.00 by cheque, money order or credit card.

Please note this process is for access under privacy legislation. We regret the production of yet another form but believe we have no other choice given the requirement of PHIPA and instructions from MOHLTC.

Please note we will continue to fulfill our responsibility to provide immediate verbal access to results required for clinical purposes such as patient self management (e.g. INRs) via telephone at no charge when this release is authorized by the ordering clinician. ■

GETTING THE WORD OUT

Effective and useful communication can be a challenge because of 'background noise' as we are all bombarded by a large volume of email and paper. It can be hard to see the wood for the trees (which are being sacrificed to provide the paper).

LifeLabs recognizes that on occasions such as during the Listeria Outbreak we need to communicate quickly and effectively with all our client clinicians. To do this our Laboratory Information System (LIS) is able to append a short banner message to all our reports. This results in transmission of information to a very high proportion of users within 24 hours. We realize that the repetition can be annoying but this is the most effective modality available to us and we try to limit the time the banner is included on reports.

The banner message will frequently direct you to our website www.lifelabs.com for more detailed information. We encourage you to visit the site to view 'Clinician Notices'. Here we post information on routine turn around time status as well as other information such as that we hope will help us help you by delivering best possible service during situations such as outbreaks.

Our 'Customer Care Centre' provides a facility to communicate by telephone. We believe mass communication is better provided via our website because inevitably a high volume of incoming calls will increase wait times and time "listening to the music".

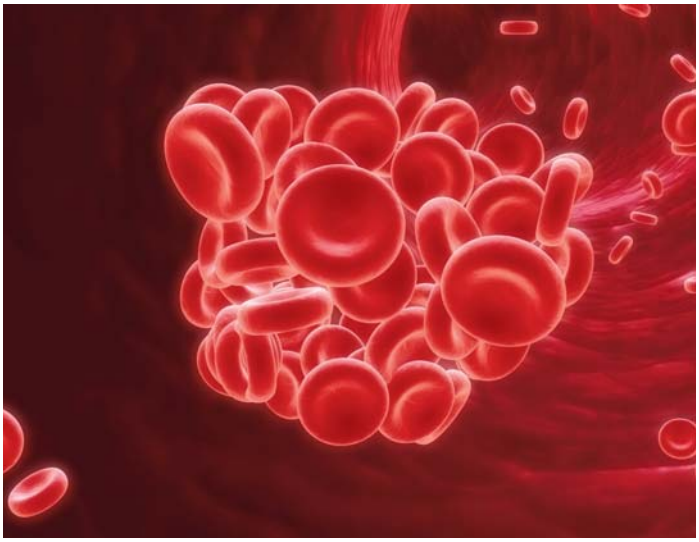
We feel the internet is the way of the present and future and is likely underutilized for routine health care delivery in Ontario. Please make your staff aware of our website and what is available.

By the way, thank you for your help to maintain effective blood culture service for patients clearly requiring the test for other reasons during the Listeria outbreak. Initially up to 75% of requests were withdrawn, then with effective communication from several agencies including LifeLabs the requests fell in line with the clinical guidelines for investigating those at risk for serious Listeriosis. ■

OAML GUIDELINE FOR THE LABORATORY MONITORING OF ORAL ANTICOAGULATION; COMING SOON

The Ontario Association of Medical Laboratories (OAML) will shortly be publishing a set of guidelines to assist you and your patients in the monitoring of oral anticoagulation therapy. These guidelines will be organized in three different documents.

The first is aimed at clinicians and covers oral anticoagulation in all its phases including collection of blood samples, sources of error, sample storage and transportation, communication of results by the laboratory, dosing, drug and herbal interactions, and the management of high INR values. The second document, also intended for clinicians, is a one page summary table for the management of high INR values. The last document is intended for patients on oral anticoagulants.



It is suggested that you look for these upcoming guidelines and consider using them in your practice. Practical tips are offered to facilitate your patient care such as avoiding blood testing on Fridays and late in the day. Information is also provided on the use and availability of vitamin K1 for the treatment of over anticoagulation. In addition, the patient's guide will serve to better educate your patients and their families about oral anticoagulation. ■

Canadian Cancer Society | Société canadienne du cancer

cancer care ontario | action cancer ontario

ontario cervical screening program | programme ontarien de dépistage du cancer du col de l'utérus

ABNORMAL PAP TEST INFORMATION AND SUPPORT PILOT STUDY

The Ontario Cervical Screening Program and the Canadian Cancer Society are partnering to explore the benefit of information and support for women dealing with the psychosocial, physical and sexual/reproductive health impacts of abnormal Pap tests and subsequent diagnostic procedures and treatments.

- **Do you have patients with abnormal Pap test results who might benefit from participation in the pilot study described below?**

The pilot study commencing in the fall of 2008 offers women the opportunity to register for a teleconference session co-facilitated by a Canadian Cancer Society cancer information specialist, for reliable information about cervical cancer screening, diagnostic tests and risk factors and a trained peer support volunteer who has had a cervical cancer experience.

For information or patient referral please call the *Cancer Information Service* **1 888 939-3333** or email **cis@ontario.cancer.ca.** ■

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PROTECTING PERSONAL HEALTH INFORMATION

LifeLabs Access Request Form for Copy of Test Results - Ontario

As per ***Section 24 of Ontario Regulation 329/04***, LifeLabs may only provide copies of test results to patients at the express instruction of the requesting health care practitioner. Patients requesting a copy of their results directly from LifeLabs must have their physician complete and sign the *Physician* section below, complete and sign the *Patient* section themselves, and then mail (do not fax or e-mail) the legibly completed form, along with their payment, to:

LifeLabs
Attn: Privacy Office
100 International Blvd.
Toronto, Ontario, M9W 6J6

↘*PHYSICIAN SECTION:*

Under Section 24 of Ontario Regulation 329/04, as the requesting health care practitioner, I authorize the patient (or substitute decision-maker) below:

Patient name: _____
Date of birth (dd/mm/yyyy): _____ Health card #: _____

to receive a copy of the reports resulting from (check one or both):

☐ the test requisition referenced below ☐ all of my subsequent test requisitions for this patient

Physician's Name (please print): _____
Physician's Billing #: _____
Physician's Signature: _____ Date: _____

↘*PATIENT SECTION:*

To help correctly identify the requested test results in our system, please provide the following information.

Address of Patient Service Centre visited: _____
Date of visit (dd/mm/yyyy): _____
Accession number or type of test (if known): _____

I request that the results be sent to the address below. Note that the LifeLabs logo and the name provided below will appear on the outside of the envelope.

Name: _____
Street: _____
City & Province: _____ Postal Code: _____

For each set of printed test results requested, LifeLabs charges a fee of **$25.00** (your physician may charge less). Please select your preferred method of payment (***do not send cash***):

☐ Credit Card: Card type (Visa, M/C, AMEX): _____
Name on card: _____
Card number: _____ Exp. date: _____
☐ Cheque or Money Order (please enclose with this form, and make payable to "LifeLabs")

The undersigned authorizes and consents to LifeLabs printing and mailing the requested results to the address provided above.

Signature: _____ Date: _____

Note: it may take up to fourteen (14) days to process your completed request, once received.

If you require assistance or guidance in completing this form, please contact our Privacy Office by telephone at 416-675-4530, or by sending an e-mail to *privacy@lifelabs.com*

access request form 03.doc LifeLabs Privacy Office Ver. date: Sept. 12, 2008

For more information, CONTACT:

Dr. Frank Thompson
Medical Director, Ontario
416-675-4530 ext. 4209
frank.thompson@lifelabs.com

Dr. Sheila Boss
Scientific Director, Ontario
416-675-4530 ext. 2296
sheila.boss@lifelabs.com

Dr. Peter Catomeris
Clinical Biochemist
416-675-4530 ext. 2029
peter.catomeris@lifelabs.com

Dr. Wahbi Hammouda
Director of Laboratory Hematology
416-675-4530 ext. 2728
wahbi.hammouda@lifelabs.com

Dr. Deborah Yamamura
Director of Medical Microbiology
416-675-4530 ext. 2344
deborah.yamamura@lifelabs.com

Dr. David Richardson
Medical Microbiologist
416-675-4530 ext. 2898
david.richardson@lifelabs.com

Dr. Huda Almohri
Medical Microbiologist
416-675-4530 ext. 2105
huda.almohri@lifelabs.com

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