

Clinical Knowledge Online

A Tool for Point-of-care and Medical Education



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Seminar Program

- SKOLAR MD
 - イントロダクション ^{どんなサービス?}

– コンテンツ

何がわかるの?

EBM情報 / 医薬品情報 / Ovid MEDLINE / Text Book / 患者向け情報

– インターフェイス

どうやって使うの?

- 基本機能と特徴
- Demonstration(検索例)



Introduction

SKOLAR MD

1. 臨床現場で医師をサポートする knowledge system 診療指針の決定に確証を与えるEBM情報を提供 複数の情報源を同時に検索 短時間で目的の情報にアクセス

医師の時間が少ない

治療の長期化

医療の質とコスト

2. 臨床研修医のための学習ツール 電子ブック Ovid MEDLINE

医療情報の変化・更新が早い

現場での継続学習の負担



History

- Stanford大学 医学図書館で開発
- WolterKluwer Healthがインターフェイスを 購入(March 28, 2003)
- 2004年10月 ~ ユサコ株式会社が日本で 発売を開始



Contents

- 電子ブック:
- 薬事情報:
- EBM / ガイドライン:
- Medline:
- 患者教育:



Contents:電子ブック

- ワシントンマニュアル
- ハリソン内科医学書
- オックスフォード医学テキスト
- •••••

医学界でバイブルとされているような テキストブック並びにハンドブックから、 各部位の医学書や各病気の医学書まで...



Contents: 医薬品情報

- A to Z Drug facts
- Drug facts and Comparisons
- FDA MedWatch
- Review of Natural Products
- •••••



Contents: EBMガイドライン

- Clin-eguide(診療指針決定のサポートツール)
- GAC Recommended Guidelines (Ontario)
- National Guideline Clearinghouse
- Australian and New Zealand Guidelines



Contents: MEDLINE

Ovid Medline

絞込検索:出版年·著者名·ジャーナル名等

Ovid Medlineからフルテキストヘリンク



Contents: 患者教育

- American Academy of Family Physicians
- Australian and New Zealand Patient Education
- Patient Handouts (CDC, FDA, NIH, NWHIC)
- PDQ® Cancer Information Summaries: Treatment (Patients)



Interface 特徴

- ■基本機能と特徴
 - 少ない手順で必要な情報にアクセス可能!

キーワード検索

Quick Hits

クリックで情報源を移動

検索後、"QUICK HITS RESULTS"というページが表示され、医師から患者への提言に必要な、重要なエビデンスを有する情報に簡単にアクセスできます。

治療方針・疾病概要・オプション・投薬条件・危険因子・治療コスト



Interface 特徴

- ■基本機能と特徴
 - より詳しい調査は後から実行!
 - 1. NOTEBOOKに保存
 - 2. 診察・治療を継続
 - 3. NOTEBOOKから呼び出す
 - 4. テキスト/ Medlineで調査
 - 保存した検索の結果をE-mailで送信することも可能!



Interface 特徴

- ■基本機能と特徴
 - 医療情報ポータルとして活用!
 - さまざまな最新情報にアクセス

New York Times からのHealth関連ニュース

FDA Alert

オンラインジャーナルのウェブサイト

American Family Physician

British Medical Journal

JAMA

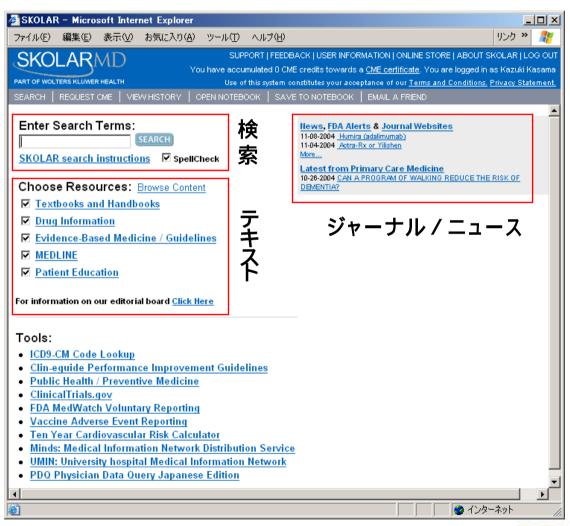
Lancet

etc...

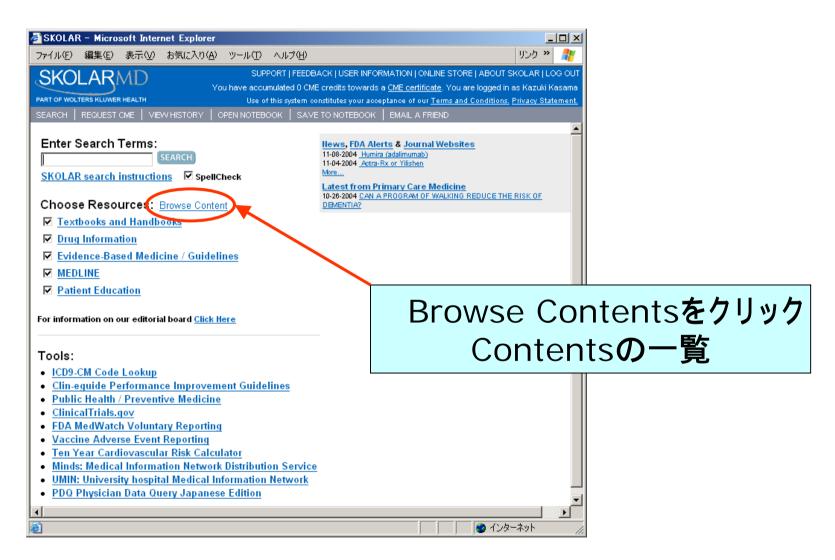
Primary Care Medicine からの最新情報



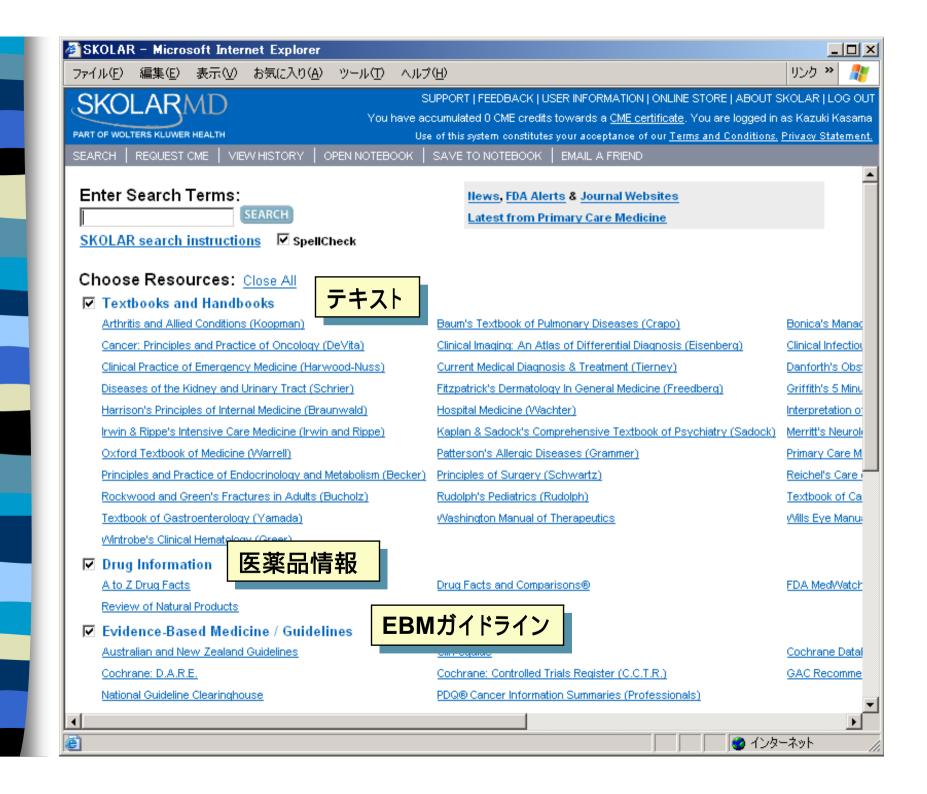
基本検索画面

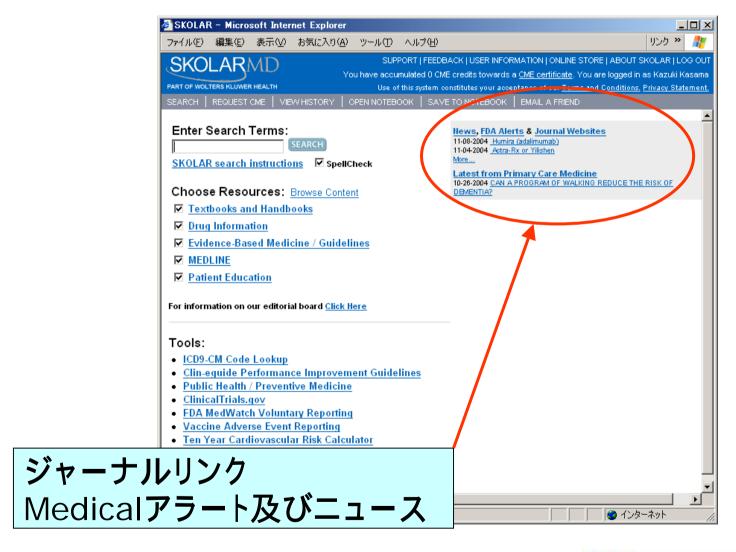




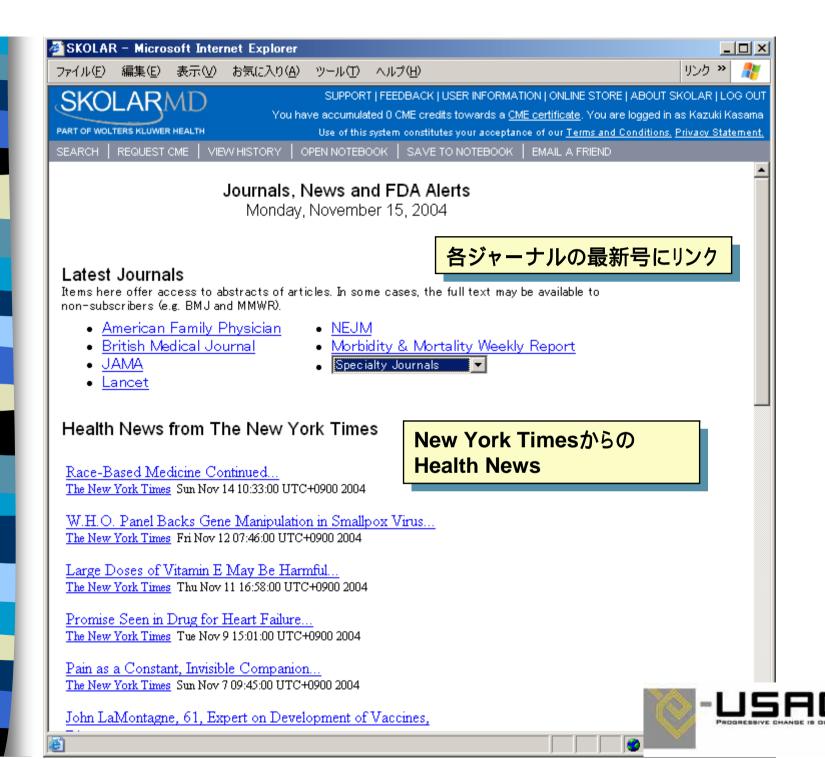












ノートブックの参照 Open Notebook 結果の保存 Save to Notebook

検索履歴 ViewHistory

検索結果のE-mail E-Mail A friend

> 利用終了 Log Out

SKOLARMD

SUPPORT | FEEDBACK | USER INFORMATION | ONLINE STORE | ABOUT SKOLAR | LOG OUT

You have accumulated 0 CME credits toward a <u>CME certificate</u>. You are logged in as Kazuki Kasama

REQUESTIONE | VIEW HISTORY

OPEN NOTEBOOK

SAVE TO NOTEBOOK

EMAIL A FRIEND

ユーザ登録画面



SkolarMD 検索シナリオ1

Dyspepsia(消化不良)

シナリオ

患者情報: 40歳

男性

約2週間消化不良と下記の症状

症状: 膨脹 (Bloating)

嚥下困難 (dysphasia)

早い満腹感 (early satiety)

吐き気 (nausea)

痛みはないが、嫌な感じ

腹部上部の充満 (Upper abdominal fullness)

臨床医はどうすべきか?

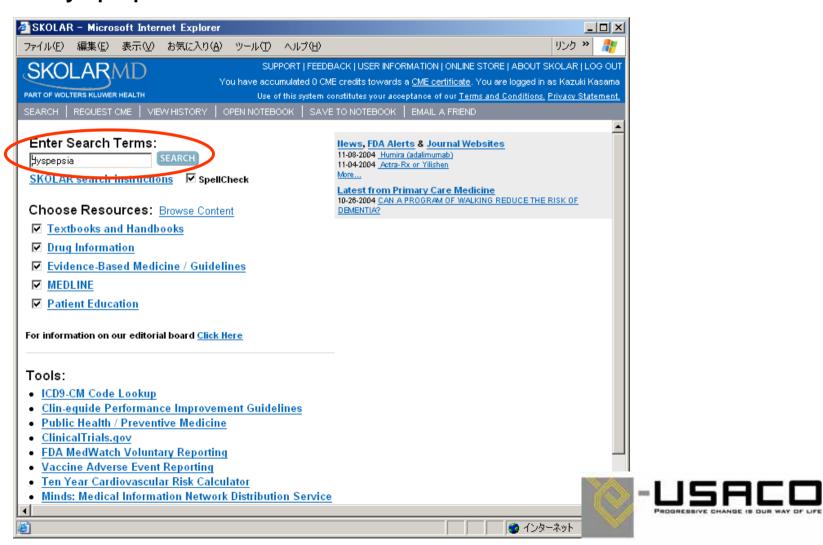
Q1 胃カメラ等で診断するべきか?

Q2 すぐに治療を始めるべきか?



Q1.胃カメラ等で診断するべきか?

- 0.Skolar MDへのログイン
- 1.Dyspepsiaを入力し、Searchをクリックする。



Q1.胃カメラ等で診断するべきか?

2.結果のClin-eguideから、Overview(概略)を選択する。

Clin-equide: 2 of 2 index hits displayed.

- Conditions
 - o dyspepsia, approach [Overview Dagnosis, Treatment]
- Condition Related Notes
 - o functional dyspepsia (in dyspepsia, approach)
- 3.Overviewの表示と病状の確認。 Alarm symptoms and signsの確認 (次ページ赤丸)



S PAGE LOCATION:

dyspepsia, approach

clin-eguide

gement overview ise characteristics initions demiology nosis anostic auidelines erential diagnosis anostic tests atment guidelines References

Management overview

- Dyspepsia is defined by the most widely accepted international consensus, the 1999 Rome II criteria, as pain or discomfort centered on the middle part of the upper abdomen (see definition).??
 - Dyspepsia does not include symptoms of reflux (heartburn) or irritable bowel disease (stool symptoms).
 - Discomfort can refer to a number of subjective sensations in addition to pain (eq. nausea, bloating).??
- 2. Dyspepsia is poorly correlated with any specific diagnosis.??
 - 40-60% of patients have no abnormalities of any kind on endoscopy (see functional dyspepsia).
 - 8% have a
 - **Alarm symptoms and signs** • 5-15% hav
 - A minority
 - ncluding malignancy (see differential diagnosis).
- 3. Prevalence varies considerably, but in vivestern countries dyspepsia appears to affect 15-25% of the adult population.
 4. Alarm??symptoms and??signs??ray indicate complicated ulceration or malignancy.
- 5. Perform targeted investigations, as clinical features are unreliable (see diagnostic guidelines).??
 - Perform endoscopy on patients??of any age with??'alarm' symptoms and signs.
 - Evidence to support the mandatory use of early upper GI endoscopy to investigate patients >55 years old who present with new onset??uncomplicated dyspepsia, is lacking??
- 6. Consider testing for H. pylori, and giving eradication therapy to those with positive tests (the 'test-and-treat' approach).
 - Explain that test-and-treat may not relieve symptoms, and many patients require endoscopy eventually.
 - · Arrange endoscopy for treatment failures and those with persistent symptoms.
 - Do not undertake a therapeutic trial without H. pylon?? testing and adequate follow up.
- 7. Uncomplicated symptoms of brief duration (<4 weeks) may be observed??without investigation.
 - · Provide symptomatic treatment and investigate if symptoms continue.
 - Drug and lifestyle factors (eg., smoking, NSAIDs, caffeine) may be relevant to some individuals (see treatment guidelines).
- 8. Where endoscopy is negative manage as functional dyspepsia.??
 - Keep patients with persistent symptoms under review, particularly??the elderly.
 - · Further testing (eg, imaging) is usually unhelpful and should not be undertaken rou



Q1.胃カメラ等で診断するべきか?

'Alarm' symptoms and signs

- 'Alarm' symptoms and signs are based on expert opinion rather than published evidence, and include:
 - dysphagia??
 - recurrent vomiting
 - significant unintentional weight loss
 - anemia from GI hemorrhage or upper abdominal mass.
- · Patients of any age with these features should undergo early investigation.
- 4.患者の症状との比較
- 5.診断のガイドラインの調査(次ページ黒丸)



S PAGE LOCATION:

295

dyspepsia, approach

1389

550

clin-eguide

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Management overview

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- 1. Dyspepsia is defined by the most widely accepted international consensus, the 1999 Rome II criteria, as pain or discomfort centered on the middle part of the upper abdomen (see definition).??
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 - Discomfort can refer to a number of subjective sensations in addition to pain (eg, nausea, bloating).??
- 2. Dyspepsia is poorly correlated with any specific diagnosis.??
 - 40-60% of patients have no abnormalities of any kind on endoscopy (see functional dyspepsia).
 - 8% have a peptic ulcer.
 - 5-15% have GERD.
 - · A minority have various pathologies in the stomach and other viscera, including malignancy (see differential diagnosis).
- 3. Prevalence varies considerably, but in Western countries dyspepsia appears to affect 15-25% of the adult population.
- 4. Alarm??symptoms and??signs??may indicate complicated ulceration or malignancy.
- 5. Perform targeted investigations, as clinical features are unreliable (see diagnostic guidelines).
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Q1.胃カメラ等で診断するべきか?

6. 下記の症状がでている場合は、胃カメラへ 2. Select diagnostic strategies based on patient's age, presentation, and preferences:

Diagnostic strategy	Patient characteristics
Observation, without investigation	 Uncomplicated symptoms of brief duration (<4 weeks) may be observed, without investigation Provide symptomatic treatment and investigate if symptoms continue
Perform endoscopy	Age >45 years??with new-onset dyspepsia Age cut-off may vary according to local incidence of gastric cancer eg, may be lower in some Asia-Pacific countries Presence of 'alarm' symptoms and signs
	すぐに胃カメラで症状をチェックする。
	particularly those that perforate?? Risk is significantly increased by concomitant: corticosteroids serious comorbidity history of ulcer disease increasing age
Test for H.pylori and treat (the 'test and treat approach')	 All other patients The 'test- and-treat' approach is primarily intended to??manage some cases of peptic ulceration without an endoscopy Give eradication therapy to those with positive tests H. pylori-negative patients may respond to acid suppression??(see treatment guidelines) Arrange endoscopy for treatment failures or those with continuing symptoms

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Q2.すぐに治療を始めるべきか?

7.Clin-eguideから、Treatment Guidelines (治療ガイドライン)をクリック

Treatment guidelines

- 2. Manage endoscoped patients as per findings.
 - Treat specific pathology where present (eg, peptic ulcer, GERD).??
 - · Treat endoscopy-negative patients as functional dyspepsia.
 - Consider alternative pathologies only??after a negative endoscopy, where specifically indicated (see diagnostic guidelines).
- Treat selected nonendoscoped patients based on H.pylori status (the 'test-and-treat' approach).
 - Give eradication therapy to H.pylori positive??patients.

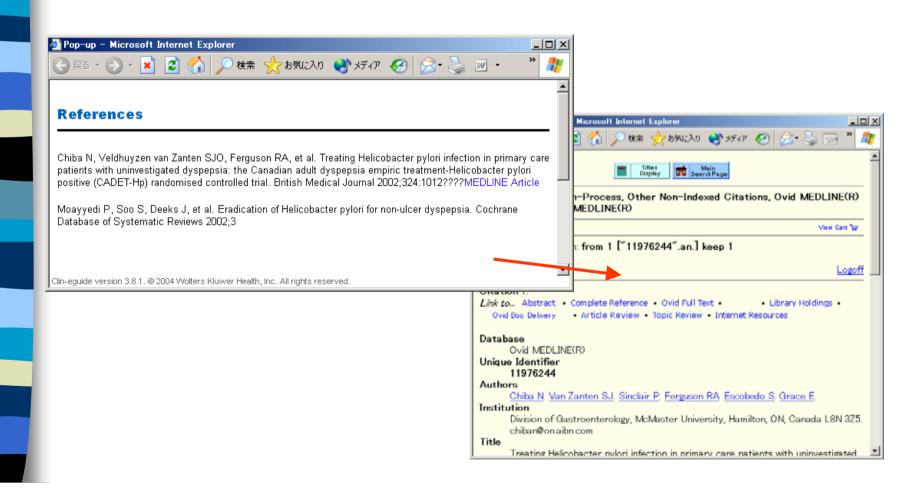
 [™]??REF
 - Do??not offer eradication therapy without a positive test??of H.pylori.

上記の赤線から、テストなくして、治療を始めてはいけないということから、答えは、NO



その他の機能 Reference

Ref をクリック References Medline等にリンク。 Medline Articleをクリックすると、Ovid Medlineへ



その他の機能 Reference

Evidenceのグレード表示(A1-Eまでの13カテゴリー)

Treatment guidelines

- 1. Consider observation, reassurance,??and symptomatic treatment, for uncomplicated symptoms of brief duration (<4 weeks) E??REF
- 2. Manage endoscoped patients as per findings.

Evidence grades

Evidence grades	Best available evidence	Outcomes measured
A1	Meta-analysis or systematic reviews of RCTs with low heterogeneity ^a or single large RCT with low risk of bias	Clinically relevant - morbidity/mortality
A2	Meta-analysis or systematic reviews of RCTs with low heterogeneity ^a or single large RCT with low risk of bias	Intermediate endpoints strongly linked to morbidity/mortality
АЗ	Meta-analysis or systematic reviews of RCTs with low heterogeneity ^a or single large RCT with low risk of bias	Intermediate endpoints with no evidence to support a strong link to morbidity/mortality
B1	Meta-analysis or systematic reviews of RCTs with significant heterogeneity ^b or single RCT with a moderate to high risk of bias	Clinically relevant - morbidity/mortality
B2	Meta-analysis or systematic reviews of RCTs with	Intermediate endpoints strongly linked to morbidity/mortality

SkolarMD 検索シナリオ 2

Stroke(脳卒中)

シナリオ

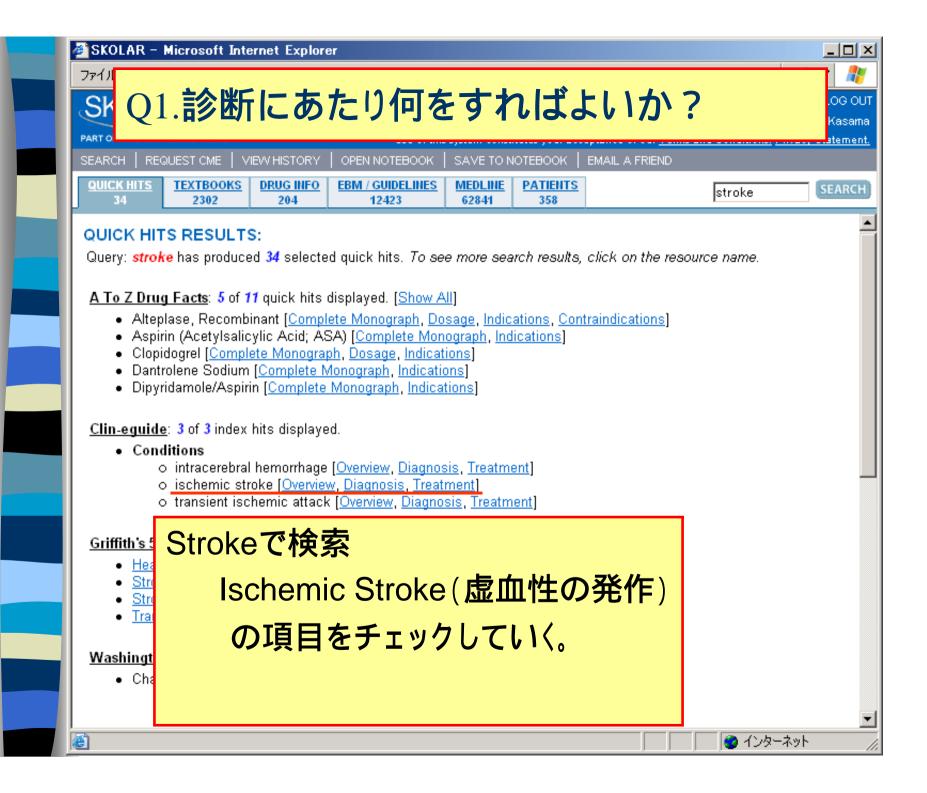
状況:

救急患者 左半身不随 家族の人曰〈、「1時間前から症状がでた。」

臨床医は.....

- Q1 診断にあたり何をすればよいか?
- Q2 他に注意すべき点は、何か?
- Q2. 治療については、Alteplase(抗血栓薬)の投与を考えているが、 妥当な選択か?
- Q3 どうすれば、一番患者にとって良い治療になるか?





Q1.診断にあたり何をすればよいか?

Clin-eguideから、Diagnosisを選択。

Clin-equide: 3 of 3 index hits displayed.

- Conditions
 - o intracerebral hemorrhage [Overview, Diagnosis, Treatment]
 - o ischemic stroke [Overview Diagnosis Treatment]
 - o transient ischemic attack [Overview, Diagnosis, Treatment]

Diagnostic guidelines

Perform urgent CT of the brain to differentiate hemorrhagic from ischemic stroke.

- 1. Obtain history from patient/eyewitness.
 - · Establish time and mode of symptom onset.
 - critical for consideration of treatment with thrombolytic agents.
 - · Identify risk factors
 - Determine current medications.
 - Obtain history of past and recent medical
- Perform a physical examination.
 - Assess airway, ventilation and circulation.
 - · Look for evidence of meningismus, fever, a
 - Undertake a focused neurologic examination
- CTスキャンを行うことが重要!! Stroke scales (eq. National Institutes of information and help to identify patients at higher risk for intracranial nemorrhage with thrombolytic therapy

脳内出血の有無を確認するため、

- Pattern of neurologic abnormalities can provide clues to site of stroke (see clinical presentation).
- Assess cardiovascular system with a view to detecting:
 - arrhythmias, murmurs indicative of valvular disease, carotid artery bruits, embolic or hemorrhagic phenomena.

Q2.他に注意すべき点はなにか?

Risk Factor(危険要因)

Risk factors

Risk factor	Comments	
Advanced age	Incidence of stroke double with each decade between ages 45 and 85 years.	ears
Asymptomatic carotid stenosis or carotid bruits	Associated with a 1.5- to 2-fold increase in risk of stroke compared with Cerebral infarction often occurs in a different vascular territory from the s	
Diabetes mellitus	Associated with an approximately 3-fold increase in risk of stroke	
Heart disease	Valvular heart disease and prosthetic heart valve replacements predisposemboli Chronic or paroxysmal AF without valvular lesions is associated with a of stroke Up to one-third of patients with MI involving the anterior wall or septum thrombus Of these, approximately 15% will have a cerebral embolus within a 2	Differentia The most importa
Heavy alcohol use	Data regarding effect of alcohol on the risk of ischemic stroke is conflic Results range from a definite effect in both men and women, an effereffect after controlling for confounding factors	Other major??diffe Space-occupyi tumor epidural hen

Differncial Diagnosis (異なる診断)

Differential diagnosis

The most important alternative diagnosis of ischemic stroke is intracerebral hemorrhage.

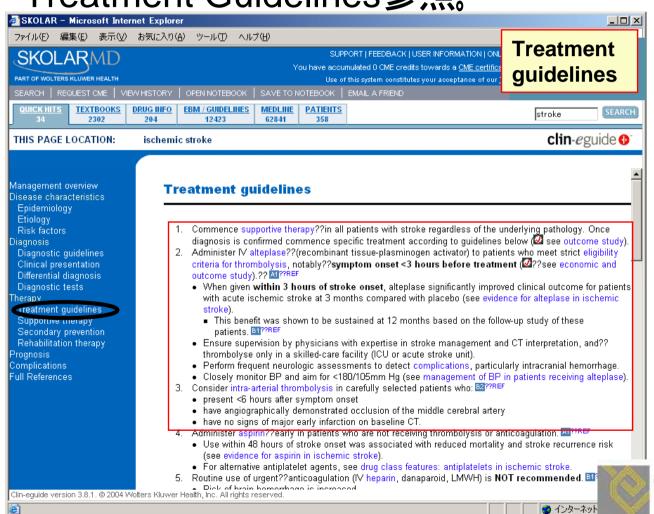
Other major??differential diagnoses that should be considered include the following:

- · Space-occupying lesions:
- tumor
- epidural hematoma
- subdural hematoma
- abscess
- Migraine
- · Metabolic abnormalities:
- hypoglycemia
- hyponatremia
- hypernatremia
- hyperosmolality
- · Unrecognized seizures
- · Postictal (Todd's) paralysis
- · Craniocerebral trauma
- · Drug overdose
- CNS infections (meningitis/encephalitis)
- Subarachnoid??hemorrhage
- Labvrinthitis
- · Confusional states/encephalopathy



Q3.治療については、Alteplaseの投与を考えているが、妥当な選択か?

Treatment Guidelines参照。







Q3.治療については、Alteplaseの投与を考えているが、妥当な選択か?

Treatment guidelines

- 2. Administer IV alteplase??(recombinant tissue-plasminogen activator) to patients who meet strict eligibility criteria for thromboly sis, notably??symptom onset <3 hours before treatment (☑??see economic and outcome study).?? [M]??REF
 - When given within 3 hours of stroke onset, alteplase significantly improved clinical outcome for patients with acute ischemic stroke at 3 months compared with placebo (see evidence for alteplase in ischemic stroke).
 - This benefit was shown to be sustained at 12 months based on the follow-up study of these
 patients. B1??REF

Dosage: Alteplase in ischemic stroke

Patient-specific characteristics, route of drug administration, and clinical consideration.

抗血栓薬の処方 (Ischemic Stroke・ 虚血性の発作)の場合 and CT interpretation, and??

ularly intracranial hemorrhage. P in patients receiving alteplase).

For further drug information (eg, contraindications, precautions, drug interactions) see A to Z Drug Facts????

=3??Adult

Route	Dosage	Comment
Intravenous		Administer: 10% of the total dose as an initial IV bolus over 1 min remaining dose as infusion over 60 min Monitor BP closely (see management of BP in patients receiving alteplase) Avoid antithrombotic or antiplatelet aggregating drugs within 24h of starting alteplase Alteplase therapy requires:



义 1



Q4.どうすれば、一番患者にとって良い治療になるか?(1例)

経済的な結果研究

Economics & outcomes

Ischemic stroke: Use of tissue plasminogen activator therapy improves outcomes and lowers costs

Clinical results from the National Institute of Neurological Disorders and Stroke trial were combined with published US medical system costs inflated to 1996 dollars (Fagan 1998).

- Early tPA administration in eligible patients:
 - improves 3-month functional outcome
 - reduces the average length of stay by 1.53 days
 - reduced nursing home/rehabilitation costs by an average of \$6196 per patient.

References

図1



Q3.治療については、Alteplaseの投与を考えているが、妥当な選択か?

Treatment guidelines

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 with acute ischemic stroke at 3 months compared with placebo (see evidence for alteplase in ischemic
 stroke).
 - This benefit was shown to be sustained at 12 months based on the follow-up study of these
 patients. B1??REF
 - Ensure supervision by physicians with expertise in stroke management and CT interpretation, and??
 thrombolyse only in a skilled-care facility (ICU or acute stroke unit).
 - Perform frequent neurologic assessments to detect complications, particularly intracranial hemorrhage.
 - Closely monitor BP and aim for <180/105mm Hg (see management of BP in patients receiving alteplase).
- 3. Consider intra-arterial thrombolysis in carefully selected patients who: EXP?REF
 - nresent <6 hours after symntom onset



アルテプラーゼの投与の根拠



Q3.治療については、Alteplaseの投与を考えているが、妥当な選択か?

アルテプラーゼの投与の根拠

Evidence for alteplase in ischemic stroke

Alteplase improves neurologic deficit and reduces the incidence of death and disability when given within 3 hours of stroke onset to selected patients with acute ischemic stroke. MOREF

- The rate of death or dependency at the end of trial follow-up (3 to 6 months) was reduced to 50% in the alteplase group compared with 60% of controls. M??REF
 - Treating 10 patients (95% CI, 6-25) within 3 hours of stroke onset prevents one additional death or dependency after 3 to 6 months.
 - Treating 14 patients (95% CI, 11-19) causes 1 additional symptomatic intracranial hemorrhage within 7 to 10 days of therapy.
 - Death or dependency rates and symptomatic intracranial hemorrhage rates were similar for patients treated between 3 and 6 hours compared with patients treated within 3 hours of onset.
- The percentage of patients with minimal or no disability (modified Rankin scale 0 or 1) after 12 months
 was 41% in the alteplase treated group compared 28% of controls.
 - No mortality benefit was seen after 12 months.

References



CTスキャンの間にテキストから情報を入手!!

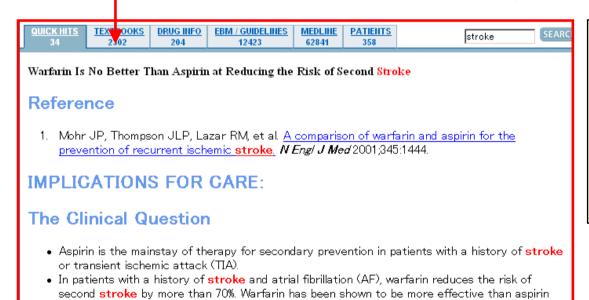
Primary Care Medicine (Goroll): 5 of 8 quick hits displayed. [Show All]

テキスト

- ADVISORIES
 - CLINICIAN ADVISORIES
 - DOES LOWERING HOMOCYSTEINE REDUCE STROKE RISK? (POSTED 2/15/2004)
 - NEW GUIDELINES FOR PREVENTING HEART DISEASE AND STROKE IN WOMEN (POSTED 2/5/2004)
 - WARFARIN IS NO BETTER THAN ASPIRIN AT REDUCING THE RISK OF SECOND STROKE
 - \$ECONDARY PREVENTION OF STROKE RISK WITH ACE INHIBITOR/DIURETIC THERAPY
 - PATIENT ADVISORIES

for stroke prevention in patients with AF.

VEIGHING SURGICAL OPTIONS FOR PREVENTING STROKE (POSTED 10/23/2004)



2度目の発作の 危険度を下げる 意味では、 Warfarin よりも Aspirin の使用 が良い。

noncardioembolic <mark>stroke</mark>. The WARSS trial was a randomized trial of warfarin and aspirin for secondary <mark>stroke</mark> prevention.

However, it is not clear if warfarin is superior to aspirin in stroke prevention after a

Key Findings





SKOLAR MD

- 1. 臨床現場で医師をサポートする knowledge system
- 2. 臨床研修医のための学習ツール

Clin-eguide, EBM / 診療ガイドライン, 医薬品情報, 電子ブック(テキスト), ジャーナルウェブサイト, アラート

総合的な医療情報ポータルとして活用! 臨床·教育の両方の効率と精度を向上!