■表 6　血液・腫瘍内科医の日米比較

日　本		米　国		比(%)
人　口	1.281億	人口	2.982億	43
医師（2004）	249,574	医師（2004）	632,818	39
日本内科学会員 (2005/12/28)	91,463	ABIM(American Board of Internal Medicine) (2005/2/18)		
日本内科学会認定医 （専門医）	55,278 (10,573)	Gen Intern Med	182,253	30
日本臨床腫瘍学会 専門医	47	Med Oncology	9,706	0.5
日本血液学会 認定血液専門医	2,119	Hematology	5,794	37

います。いろいろな科と連携をとったりコメディカルを育てていくにあたって、肩書が大事なわけではありませんが、やはりそういう道具というか武器となるようなものは持っていて損はないと思っています。博士号なんかよりはるかに役に立つ資格ではないかと思います（笑）。

今後のがん薬物療法専門医展望

大江　このがん薬物療法専門医制度がどういうふうになっていくか、展望について何かありましたらお願いいたします。

南　今年、認定試験を開始したところです。これを軸にして、多くの方に専門医の認定を取りたいと思ってもらえるような制度にしなければいけないと思います。専門医を取ったメリットも重要で、できれば実際に診療報酬に反映できるようなところまでいければいいと思いますが、その前にまず広告ができる状態にする必要があります。学会としてもその方向で準備をしているところです。

それから米国の人口は日本の大体 2.5 倍、医者の数もちょうど 2.5 倍になっていますので対人口比の医師数は日米で同じということになります（**表 6**）。日本の内科認定医（General internal medicine）・血液専門医も大体米国の 30～40％となっているのに対して、日本のメディカルオンコロジストは極端に少ないのが現状です。

もちろんいいかげんなメディカルオンコロジストでは駄目ですが、この比率に基づけば、日本臨床腫瘍学会の専門医が最終的には 3,000～4,000 人ぐらいまで増えてくれればいいと思います。

血液専門医の役割

南　専門医を増やす早期解決策の 1 つとして、2000 人以上の血液腫瘍の専門医（**表 6**）の先生に固形がんの化学療法にも参加していただくことだと思います。今の現状は、大学の医局が臓器別になっていますので、がん以外の病気を含む特定の臓器の勉強をしてから他のがん腫を勉強します。そのような医師が年をとってから血液腫瘍の領域に入っていくのは大変です。それに対して血液内科医としてトレーニングされた方が 固形がんの治療の領域に入ってくるのはそれ程大変ではないかもしれないと思われます。ですからぜひ血液内科の方には固形がんの領域に入ってきていただいて、文字通りヘマトロジー・オンコロジーの専門医としてぜひ活躍していただきたいと思います。そのように働きかけていく必要もあると思っています。

大江　そうですね、血液の先生というのは抗がん剤の扱いには慣れていらっしゃいますし、それからひどい副作用が出たときのマネージメントなどにも精通されているので、将来は血液の先生に固形がんの化学療法も担っていただくというのも一つのいい方法ではないかと思います。しかし現状では、血液の専門と固形がん専門との間で少しギャップがあるような感じがします。血液専門の先生は血液だけ診ているのですが、今回のがん薬物療法専門医を取るためには、固形がんを少し診なければいけないというようなご苦労がありますね。血液専門医の場合は、腫瘍以外を専門とする先生もけっこういらっしゃるのですか。

横山　血液疾患には赤血球疾患や血小板疾患、凝

固障害等悪性腫瘍以外の疾患が多数存在しますが、それらを専門とする医師よりは血液悪性腫瘍の薬物療法を専門とする医師が多いと考えてよいと思います。

大江　それでは、各地に血液腫瘍内科という講座は幾つかあると思うのですが、そういうところでは血液と一緒に固形がんも診ていると考えてよいでしょうか。

横山　血液と固形がんを一緒に診ている施設もあると思いますが、ほとんどは造血器腫瘍が中心で、固形がんに関しては呼吸器であれば呼吸器内科、消化器であれば消化器内科、もしくは外科系の先生が多く、メディカルオンコロジストがいない領域では色々な人が携わっている印象があります。

理想的にはメディカルオンコロジストとして広くすべての腫瘍を網羅した上で、専門領域として血液なら血液を専門としていくのがいいのではないかとは思いますが、現状の日本の大学を含めたシステムとしてそのような体制が整っていないので、血液は血液というふうに分かれているのではないかと思います。

大江　この先、ぜひ血液の先生にがん薬物療法専門医のような形で固形がんも含めて広く診療していただきたいと思います。

おわりに

大江　さて、今年当然第2回目の専門医の試験があるはずですが、実際にどれくらいの人数が受験されるというふうに予想されますか。

南　がん治療の問題が社会的な話題にもなっていますし、臨床腫瘍医、腫瘍内科医という言葉も大分浸透してきましたので、かなり数は増えると思います。

大江　国立がんセンターとか癌研の若い先生で、先生方に次いでがん薬物専門医になろうという方はいらっしゃいますか。

安井　国立がんセンターのレジデントの多くは受験資格もあるし、専門医になりたいと考えていると思います。今回の自分の経験を話すと、皆興味を持っているのが分かります。ただ、各科ローテーションのない病院で研修を受けられた先生は、3領域というところがネックになる可能性があって、今年から急に受験者が増えるかどうかは分かりません。

南　今後は毎年100人以上の方を認定していく必要があります。また専門医になられた方が何年か後には指導医となられて、ご自分でも若い専門医を教育していっていただければと思います。

大江　47名の先生方が第1回目のがん薬物療法専門医に合格され、長年の懸案であった専門医が誕生しました。

もう一つ、認定医として日本癌治療学会、日本癌学会、日本臨床腫瘍学会と全国がんセンター協議会の4組織でがん治療認定医を作るということも合意されております。そちらのほうも、実際の認定がいつになるかわかりませんが、近々、走り出すということになっていますが、大事なのは本当のエキスパートである先生方のようながん薬物療法専門医がどんどん増えてくれることです。

そういう専門医がだんだん増えて、適切ながん医療がなされることによって、治療成績が上がり、QOLも上がってくるという形で、この制度自体ががんに苦しむ患者さんの助けになってくれることを期待したいと思います。

本日はどうもお忙しいところをありがとうございました。

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1) FOLFOX：5-FU／LV＋Oxaliplatin　大腸がんに対する現時点での標準的レジメン
投与例（FOLFOX4）；5-FU／LV 療法（LV 200 mg／m^2 点滴静注後 5-FU 400 mg／m^2 ボーラス投与　＋600 mg／m^2 22時間持続静注（day1 及び day2）後、12日間休薬する。これを1サイクルとして投与を繰り返す（de Gramont レジメン）。これに Oxaliplatin 85 mg／m^2 点滴静注（day1）を加えたもの。

2) FOLFIRI：5-FU／LV＋CPT-11（Irinotecan）FOLFOX と同じく大腸がんに対する標準的レジメンのひとつ。de Gramont レジメンに CPT-11 180 mg／m^2 点滴静注（day1）を加えたもの。

3) R-CHOP：古典的な悪性リンパ腫に対する併用療法 CHOP（Cyclophosphamide＋doxorubicinHydrochloride＋Vincristine（Oncovin）＋Prednisolone）に Rituximab を加えたもの。

4) J Clin Oncol 23：4198-4214、2005：13の臨床試験のメタアナリシスで抗生剤に G-CSF を加えた方が抗生剤単独よりも感染症に伴う死亡が49%減少（オッズ比）したというもの。

■特集■ 癌治療専門医制度を考える－国民により良いがん治療を提供するシステムについて－

日本泌尿器科学会の立場から

筧　善行

癌の臨床　第51巻　第6号（2005）

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特集

癌治療専門医制度を考える
—国民により良いがん治療を提供するシステムについて—
(第42回日本癌治療学会総会特別企画より)

日本泌尿器科学会の立場から

筧　善行*1,2

A personal Opinion as a Urologic Oncologist Concerning Establishment of an Optimum System to Qualify Expertise of Cancer Therapy in Japan: Kakehi Y (*1Section Director of Urologic Oncology, Japan Urological Association, *2Dept of Urology, Kagawa University School of Medicine)

Japan Society of Clinical Oncology is planning to establish a system to qualify expertise of cancer therapy in Japan. Most of urologists working in Japan are involved in treating patients with urologic malignancies regardless of their expertise in urology. In particular, most of Japanese urologists perform for themselves the systemic chemotherapy without help of medical oncologists. Considering these circumstances peculiar to Japan, to provide patients suffering urologic cancers with treatment of higher quality than ever, a sophisticated system to qualify urologists with adequate knowledge about fundamentals of cancer treatment including basic cancer science, cancer epidemiology and statistics, basic principles in the management of malignant diseases, and ethical issues is needed.

Key words: Core curriculum, Cancer therapy, Expertise, Urologist

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はじめに

泌尿器科では腎・後腹膜・尿路・男子生殖器に発生する腫瘍を診断から治療まで一貫して担当している．診断から治療までの一貫性という点では婦人科腫瘍領域と類似しているかと思われるが，日本泌尿器科学会には傘下に泌尿器腫瘍学会のような組織は現時点ではない．一方，化学療法に関しては，進行性精巣腫瘍や尿路上皮がんなどにおいて，日常的に全身的化学療法が泌尿器科医師の手で施行されている．特に，精巣腫瘍に対する化学療法はtotal cell killingを目指した厳しい集学的治療が必須であり，症例数そのものは少ないが，相応の経験を有する泌尿器科医師が相当数存在する．

一方，若手医師に対する教育の面では学術総会や地方総会時に開催する教育セミナーなどを通じて腫瘍領域の教育がなされてきたが，泌尿器科としてカバーする腫瘍以外の領域が多岐にわたるため，十分な単位数が確保できていないこと，各臓器別の教育に偏り，いわゆるがん治療医としての総論的な知識の教育がなされてこなかったことなどの問題点がある．

筆者は日本癌治療学会専門医制度委員会委員として，日本癌治療学会によるがん治療専門医制度の発足に関わっている．一方，日本泌尿器科学会の泌尿器腫瘍領域専門部会長として，泌尿器腫瘍部門の卒後教育の立案などに携わっている．このような立場から，日本癌治療学会のがん治療専門医制度にどのように日本泌尿器科学会が連動して，がん治療を専門領域とする泌尿器科医師の育成に役立てるかという問題について考察してみたい．

*1 日本泌尿器科学会泌尿器腫瘍専門領域部会長
*2 香川大学医学部泌尿器科

表1　日本泌尿器科学会専門領域部会（12部会）

• 小児泌尿器	• 内分泌・生殖機能・性機能
• 泌尿器腫瘍	• 下部尿路閉塞性疾患
• 腎不全・腎移植	• 排尿機能・神経泌尿器
• 尿路結石	• 外傷・救急
• 尿路性器感染症	• 体腔鏡
• 婦人泌尿器	• 医療制度・保険

1. 日本泌尿器科学会における「がん治療」に関する教育の現状

日本泌尿器科学会には筆者が関連する腫瘍領域以外に11の専門領域部会があり（表1），理事長直轄の組織として，教育委員会や学術委員会と連携しながら卒後・生涯教育の立案，専門医試験の出題，ホームページでの癌治療に関する広報活動などを行っている．他の専門科の先生方は泌尿器科がカバーする分野が予想以上に広いことに驚かれるかもしれないが，全国の医科系大学の泌尿器科主任教授の専門領域も腫瘍以外に尿路結石症，排尿機能障害や尿路性器感染症，腎移植や男子生殖医学など多岐にわたっている．一方で，高齢化社会が進行するわが国では，前立腺癌などの泌尿器悪性腫瘍の罹患率が増加しており，大学付属病院などの特定機能病院の泌尿器科では主任教授や診療科長のサブスペシアリティを問わず悪性腫瘍患者の比率が5割以上を占めるのが現状である．

日本泌尿器科学会では卒後・生涯教育セミナーを1年4回（昨年末よりすべてのセミナーを1時期に1カ所で再度開講しているので実質5回）開催している．テーマの選定は各専門領域部会に任されているが，一貫性を保つために数年間のスパンで全体計画をたてて実施されている．しかし，専門領域が12あることから，腫瘍関連にわりあてられる講義単位数には限りがある．表2は過去5年間に開催された日本泌尿器科学会卒後・生涯教育セミナーのテーマであるが，どうしても各論的内容に偏らざるを得ない状況になっていることがわかる．講演内容はテキストとして発売され，専門医試験に出題されても問題のないエビデンスレベルの高いもので構築されるよう各講師にはあらかじめ通知徹底されている．

平成11年の厚生労働省のいわゆる2課長通知により，平成16年から17年はじめにかけ泌尿器科領域でM-VAC療法などの3種の併用抗がん剤療法があいついで適応追加承認になった．これを受け，平成16年末には化学療法の適正使用に関する教育セミナーが開催された（表2）．このようながん治療に関する基盤的内容を含んだセミナーの数を増やすことが今後の課題であると思われる．

2. 日本泌尿器科学会ボーティングメンバーに対するアンケートから

さて，日本癌治療学会の依頼で2004年10月に京都で開催された第42回日本癌治療学会総会で，「癌治療専門医制度を考える―国民により良いがん治療を提供するシステムについて」という会長特別企画が開催され，日本泌尿器科学会を代表して筆者が意見を述べさせていただく機会があった．この機会に指導的立場にいると思われる泌尿器科学会会員歴10年以上のボーティングメンバー（以下VM）4649名に対して簡単なアンケート調査を行い，2035名（44%）から回答があった．回答のあったVMのうち38%が日本癌治療学会会員であった．M-VACやBEP療法などの全身的併用化学療法の施行経験はあるかとの問いには92%の回答者が経験ありと回答した（図1）．経験症例数などの詳細を尋ねていないため，研修医時代の少数例のみの経験者も含まれていると思うが，泌尿器腫瘍を自分のサブスペシアリティと考えていない医師の多くも化学療法を施行している現実が伺える．次に，自分の受け持ち患者の化学療法は誰が施行しているかとの問いにも，95%が自分を含めた泌尿器科医が施行しているとの回答で，腫瘍内科医師が遂行しているのは1%とわずかであった（図2）．しかし，将来的にも泌尿器科医が化学療法を施行するべきかとの問いには，意見がわかれ，泌尿器科医師が施行するべきとの意見と腫瘍内科医師など別の専門医師に委ねたいとの意見が半々であった（図3）．将来も泌尿器科医師が化学療法を担当すべきと回答した者の理由としては，治療の一貫性が確保さ

表2　日本泌尿器科学会卒後・生涯教育セミナーにおける腫瘍関連テーマ（過去5年）

なぜ膀胱癌はこれほど高頻度に再発するのか？	2000年総会	卒後
精巣腫瘍最近の進歩	2000年中部総会	生涯
尿路悪性腫瘍の遺伝子的背景	2000年西部総会	卒後
前立腺癌診断と治療：21世紀のup-date	2001年総会	卒後
進行性尿路上皮癌の化学療法	2001年東部総会	卒後
膀胱癌の治療	2001年中部総会	生涯
前立腺癌の治療	2001年西部総会	生涯
尿路変向・尿路再建―適応と合併症への対処―	2002年総会	卒後
進行性精巣腫瘍の治療（化学療法を中心に）	2002年東部総会	卒後
進行性腎細胞癌に対する根治治療の限界とpalliative therapy	2002年西部総会	生涯
泌尿器癌に対する体腔鏡手術の適応と限界	2003年総会	卒後
再燃前立腺癌の治療	2003年中部総会	卒後
表在性膀胱癌の診断と治療	2004年総会	卒後
腎細胞癌に対する新しい治療法	2004年東部総会	生涯
併用抗がん剤早期承認制度とM-VACおよびBEP療法	2004年合同教育セミナー	卒後・生涯

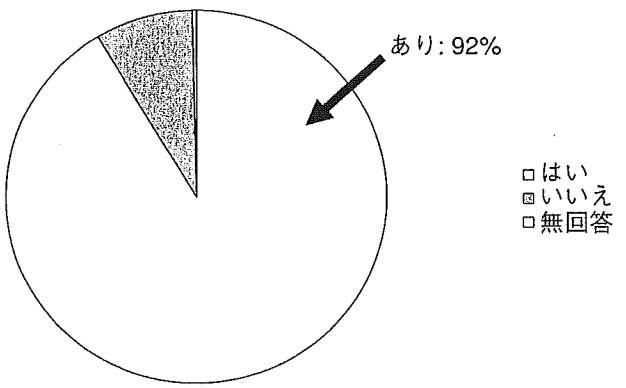

図1　化学療法（MVACやBEPなど）の施行経験はありますか？

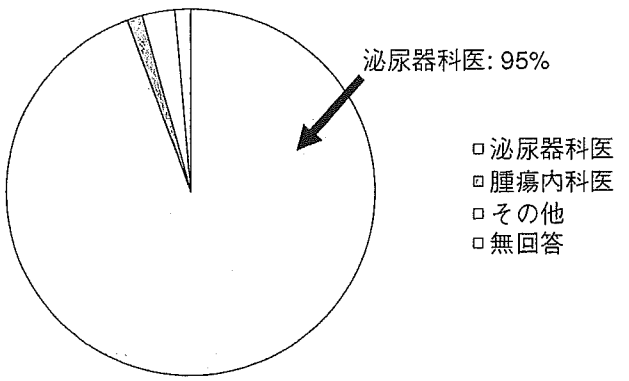

図2　受け持ち患者の化学療法は誰が施行していますか？

れるとの意見が最も多かった．

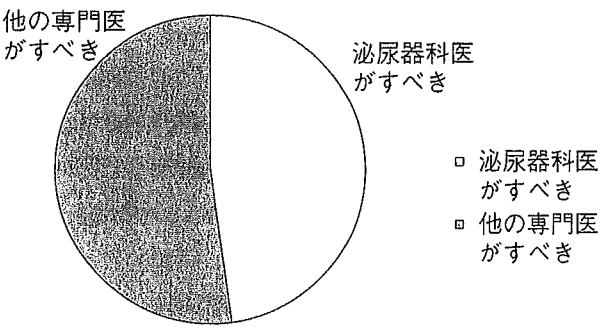

図3　将来も泌尿器科医が受け持ち患者の化学療法を担当すべきか？

3.　泌尿器科医師に求められるがん治療医としての専門的知識とは

上記のアンケートの最後に，日本癌治療学会のがん治療専門医制度が発足した場合，資格を取得する意思があるかどうかを尋ねたところ，半数あまりが取得を希望するとの回答であった．今回のアンケートの回答者の中で日本癌治療学会の会員が約800名を占めたが，会員以外にも200名以上の資格取得希望者がいるという点でも興味ある結果であった．この回答の背景には，進行性泌尿器腫瘍の化学療法を腫瘍内科医などの化学療法の専門医師に任せることのできる環境にある施設はわが国ではきわめて少ないこと，前立腺癌に対するホルモン療法や腎癌に対するサイトカイン療法などは外来レベルで日常的に泌尿器科医によって遂行されていること，進行がんのターミナルケア

を担当する機会を多くの泌尿器科医が有していることなどから，がん治療に関する専門的知識を体系的に身につけたいと，積極的に希望する医師の多いことが背景にあると思われる．

それでは，われわれ泌尿器科医に求められるがん治療の専門的知識とはどのようなものが要求されるべきであろうか．肺癌や大腸癌などの各臓器別の治療に関する知識は日常診療上ほとんど必要とされる場面はない．これらを勉強させる資格制度は負担だけを増して現実的効果が低くなるように思われる．がん治療に関する基盤的知識を系統的に教育しチェックするシステムが，最も現実的で患者へ還元されるものも大きいように思われる．それではがん治療に関する基盤的知識とは具体的に何を指すであろうか．卒後教育にも使用しうる日本語の教科書の内容などから考察してみたい．ベッドサイド泌尿器科学（診断・治療編）改定第3版[1]は臨床泌尿器科学全体を網羅した教科書の一つで，医学部卒業後に泌尿器科を専門領域として選択した若手医師の教育にも十分耐えられるように配慮されたものだが，その全700ページあまりの中で泌尿器腫瘍学の項は約180ページである．がん治療の基盤的知識に関連する内容としては，腫瘍病理学，癌化学療法概説，腫瘍免疫学，放射線療法・温熱療法概説に85ページが割かれている．一方，臨床腫瘍学に関する本邦の代表的教科書である臨床腫瘍学第3版（日本臨床腫瘍学会編）1200ページあまりの中では，がん治療の基盤的内容に関して約700ページが割かれている[2]．ASCO（American Society of Clinical Oncology）とESMO（European Society for Medical Oncology）のタスクフォースによるがん治療医教育のカリキュラムもがん治療医に要求される基盤的知識が列挙されている[3]．後者の2つは腫瘍内科医向けに重点が置かれているが，先の泌尿器科学の教科書では触れられていないが，がん治療を専門とする泌尿器科医に是非とも必要と思われる内容が数多く含まれている．筆者なりに，泌尿器科医でがん治療を専門分野とする医師に必要と思われる基盤的知識を項目のみ表3に列挙してみた．癌の分子生物学的知見を含めた生物学的基礎知識に関しては，臨床医には特段不必要との考え方もあるが，新規分子標的薬剤の開発および臨床応用，遺伝子多型を利用した個別化治療などが現実化している現況や将来を展望した場合，一定程度の知識は不可欠と思われる．また，医師主導型の臨床治験・臨床試験を促進するうえで，治験担当医師以外の医師にも，適切に臨床試験が実践されるための基礎的知識が必要であろう．一方，悪性腫瘍に随伴する症候論，転移がんの治療，腫瘍関連緊急対策，末期患者に対する支持療法，緩和医療，科学的なQOL評価などは，実地がん治療の現場できわめて重要な項目であるにも関わらず，わが国では卒前教育はもとより，卒後専門教育でも系統的な教育がなされてこなかった．これは泌尿器科腫瘍領域に限った問題ではないと思われるが，今後のわが国のがん治療の質の向上を考えた場合，系統だった教育がぜひとも必要な項目であると考える．

表3　がん治療を専門とする泌尿器科医に必要と考えられる「がん治療」の基盤的項目

がんの分子生物学的・分子遺伝学的知識
発がん機構（ウイルス発がんや化学発がんなどの外因性機構と家族性がんなどの内因性機構）
腫瘍免疫機構
疫学研究の方法論とがんの統計
がん予防
がん検診
分子標的治療とトランスレーショナルリサーチ
がんの外科療法 の基本的考え方
がんの放射線療法の基礎的知識
抗悪性腫瘍薬の薬理学（薬物動態，DDS，殺細胞効果の機序，薬剤耐性など）
分子標的治療薬（広義）
新しい治療戦略（遺伝子治療，ワクチン治療，荷電粒子治療など）
臨床試験の基礎的知識（インフラ，デザインと解析，医療倫理，データマネージメントなど）
画像診断学の基礎的知識
腫瘍マーカー
腫瘍随伴症候群
転移がんの治療
腫瘍関連緊急対策
支持療法
がん緩和医療学の基礎的知識
がん患者のQOL評価

まとめ

泌尿器科領域の悪性腫瘍治療を専門とする医師の立場から，がん治療専門医制度について私見を述べさせていただいた．日本癌治療学会が整備中のがん治療専門医制度の中で提示される資格試験や教育セミナーにおいて，上記のようながん治療に関する基盤的内容が系統的に提供されるならば，がん治療を主たるサブスペシャリティとする泌尿器科医にとって，この専門医制度が意義のあるものになるのではないかと考える．

文　献

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FROM THE ASCO-JSCO JOINT SYMPOSIUM

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Summary of the ASCO–JSCO Joint Symposium

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The American Society of Clinical Oncology (ASCO) is now rapidly expanding as an international society for clinical oncology. The ASCO mission statement is as follows: "As a nonprofit organization, ASCO is dedicated to achieving its charitable mission outlined by the organization's founders in 1964. ASCO strongly supports all types of cancer research, but in particular, patient-oriented clinical research." To realize the ASCO mission statement, ASCO makes strategic plans, and the new strategic plan is titled "Cancer Prevention and New Control." Because there now are more than 20000 ASCO members, the choice of meeting places is limited. ASCO 2005 will be held in Orlando, Florida, USA, May 14–17, and ASCO 2006 will be held in Atlanta. Thereafter, all meetings are scheduled to be held in Chicago because of the number of flights to the city, hotel accommodations, and the size of the convention center. ASCO has many scientific activities in addition to the annual meeting. For example, the Gastrointestinal Council Symposium and the Multidisciplinary Prostate Cancer Program will be conducted in Miami and Orlando, respectively. In addition, the "Best of ASCO" meetings are scheduled not only in the United States but also in Japan as an advanced course organized by the Japanese Society of Medical Oncology (JSMO), to be held June 11 and 12, 2005. ASCO also publishes materials such as educational curricula and self-assessment tools.

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The ASCO-JSCO Joint Symposium was held in Kyoto, Japan, on October 29, 2004.

The *Journal of Clinical Oncology* (JCO), published by ASCO, is widely read and has an impact factor above 10. In 2005, publication of review article issues began. Membership in ASCO grew from 66 in 1964 to 21837 at the end of 2003. Some 23000 investigators attend the annual meeting every year. Members' board certifications show more than half in medical oncology, with 15% in hematology/oncology, followed by pediatric oncology, radiation oncology, and others. The distribution is similar to that of the Japanese Society of Medical Oncology (JSMO) and is quite different from that of the Japanese Society of Clinical Oncology (JSCO). Domestic membership is 73% and international membership is 27%. By world region, about 50% of the international members are in Europe, 19% are from Asia, 8% from Latin America, with Canada and Mexico accounting for 15%. After the United States, the top 10 countries for ASCO membership are Japan (No. 1 at 591), followed by Canada, Germany, Italy, France, the United Kingdom, Spain, Brazil, and Switzerland. Thanks to the efforts of the International Committee (Nagahiro Saijo, chairman) of JSCO, reciprocal membership application became available to JSCO members, making it possible to avoid complicated application procedures to become an ASCO member. JSCO members are encouraged to use this system and to apply for active membership in ASCO.

The ASCO International Affairs Committee organizes various joint symposiums and workshops. For example, with FRASCA, ASCO held a joint international symposium in 2003 and an Australia/Asia–Pacific clinical research development workshop in 2004. Every year ASCO and AACR have a joint workshop on clinical trials in Vail, Colorado, USA. Japanese oncologists, in addition to facing language barriers, still do not have enough scientific knowledge to attend this meeting. ASCO and the European Society of Medical Oncology (ESMO) approved the core curriculum of medical oncology, which has been published in the *Journal of Clinical Oncology* and the *Annals of Oncology*. The JSMO has almost completed the translation of the curriculum, which will be accredited by ASCO. JSMO provides educational seminars twice a year based on that

Table 1. Japanese contribution to ASCO

1. Description	Total
International members	27%
US members	73%
Total ASCO members	21800
2. Number of international members by country	
Japan 591, Canada 575, Germany 444, Italy 423, France 337, UK 289	
3. Japanese ASCO presentation	
Original papers (oral, poster discussion, poster)	
1994, 17; 1997, 37; 2000, 64; 2003, 85; 2004, 92	
Participants in poster discussions – N. Saijo (2003)	
Educational sessions	
International symposium	N. Saijo (2002), M. Sasako (2003)
Meet the professor	N. Saijo (2003), M. Tsuboi (2004)
Educational symposium	H. Wada (2005)
4. Committee member in ASCO	
International affairs committee (Director: Paula T. Rieger)	
2001–2003	Nagahiro Saijo
2003–2005	Yasuhiro Fujiwara
2004–2006	Masahiro Fukuoka
5. Endorsement for	
ASCO–JSCO joint symposium (2002, 2003, 2004, 2005)	
ASCO–JSMO joint symposium (2004, 2005, 2006)	
6. ASCO Board member	Nagahiro Saijo (2004–2007)

curriculum. ASCO has established a new international seat on the ASCO Board of Directors, and I (Nagahiro Saijo) was elected as a 2004–2007 ASCO Board member, as was Dr. José Baselga from Spain for 2003–2006.

Japan is the top country in terms of the number of active international members of ASCO (Table 1). The number of Japanese attendees at the ASCO annual meeting increased to 900 in 2004. The acceptance ratio for Japanese abstracts is improving; for posters, poster discussions, and oral presentations it is nearly 50%, and the numbers of presented abstracts are about 80–90 every year. The ASCO–JSCO joint symposium started in 2002 in Tokyo, followed by the one in Sapporo last year. Because we could not attract a large enough audience for those meetings, the program for this year shifted to topics of surgery. Dr. Nimura, a moderator of the symposium, and Drs. Kato, Sasako, and Blumgart are surgeons; Dr. Ajani and I are medical oncologists.

Dr. Kato, a professor of Tokyo Medical College, spoke on adjuvant chemotherapy of early-stage lung cancer. Uracil-tegafur (UFT) is a chemotherapy drug that most American oncologists do not recognize because it has not been approved for use in the United States, although limited numbers of clinical trials of the drug have been conducted against gastrointestinal tumors there. UFT has been widely used in Japan against various tumor types and has been approved for use in many countries. Uracil-tegafur, a prodrug of 5FU, is one of the oral fluorinated pyrimidine drugs that has been synthesized mainly by pharmaceutical companies in Japan. The main purpose of oral fluorinated pyrimidine is to improve the delivery of low-dose 5FU over time, mimicking a continuous infusion of 5FU. The beneficial effect of tegafur is believed to derive from its slow conversion to 5FU through the cytochrome P450 pathway. The released 5FU from the prodrug tegafur competes with uracil for catabolism by the rate-limiting enzyme dihydropyrimidine dehydrogenase. The presence of excess uracil is believed to decrease the degradation of 5FU, maintaining a continuous drug level. Although it has been widely used in various diseases, there have been no large confirmatory randomized controlled trials. In the treatment of non-small cell lung cancer (NSCLC), a small phase II study showed that the response rate of UFT was less than 10%. Surgeons in Japan still prefer to use it after surgery, however, because of its mild adverse effect and because of oral administration. In a previous preliminary phase III trial of adjuvant chemotherapy after resection of NSCLC, UFT taken orally was shown to prolong survival, especially in pathological stage I adenocarcinoma. Based on these data, the Taiho Pharmaceutical Company organized the Japan Lung Cancer Research Group on Postsurgical Adjuvant Chemotherapy and conducted a randomized controlled trial against pathological stage I adenocarcinoma. Patients were randomly assigned to UFT (250mg) for 2 years or to no treatment. From January 1994 through March 1997, 999 patients were enrolled. Twenty patients were found to be ineligible and were excluded from the analysis after randomization, 491 patients were assigned to receive UFT, and 488 were assigned to observation. The median duration of follow-up for surviving patients was 73 months. The difference in overall survival between the two groups was statistically significant in favor of the UFT group ($P = 0.04$ by stratified log-rank test). Grade 3 toxic effects occurred in 10 of the 482 patients (2%) who received UFT.

So far, six randomized trials, including the present one, have been conducted that compare surgery alone with adjuvant UFT chemotherapy. Among them, three trials have shown a survival benefit from treatment with UFT. A meta-analysis of those six trials showed that adjuvant chemotherapy with UFT improved overall survival (hazard ratio for death, 0.77; 95% confidence interval, 0.63–0.94; $P =$

0.01). It is unclear whether patients with stage II or stage III disease benefit from treatment with UFT and whether treatment for 1 year is equivalent to treatment for 2 years.

In addition, Dr. Kato briefly presented data on adjuvant chemotherapy with platinum-based regimens that had been presented at ASCO 2004.

Dr. Ajani, professor of Medicine at the M.D. Anderson Cancer Center, spoke on "Current advances in the treatment of unresectable gastric and gastroesophageal adenocarcinoma." He touched first on ethnic differences in metabolism of fluorinated pyrimidines. S-1 contains ftorafur, which is converted by the cytochrome P450. CYP2A6 is responsible for the conversion from ftorafur to 5FU. It has been discovered that CYP2A6 polymorphism makes the enzyme very efficacious in Caucasians. For the same dose of S-1, accumulation of 5FU is higher in Caucasians than in Japanese, resulting in high frequency and high grade of toxicities. The recommended dose of S-1 in the Japanese population is 35–40 mg/m^2 twice daily, whereas that in Caucasians is 25 mg/m^2 if combined with cisplatin. It is quite important to determine the correct dose of S-1 for Caucasians.

Pharmacokinetic and pharmacodynamic analysis showed a clear relationship between the AUC of 5FU and grade 1 frequency of any dose-limiting toxicity. The recommended dose for Caucasians was 25 mg/m^2, twice daily, S-1 and 75 mg/m^2 cisplatin, a combination that showed a high response rate in gastrointestinal carcinoma.

Dr. Ajani presented recent results of a docetaxel-containing regimen in gastric cancer. In phase III of V325, all 463 patients have been enrolled. A planned interim analysis was carried out when 162 TTP (time-to-tumor-progression) events occurred. By this time 232 patients have been accrued. The following results of an interim analysis were presented at the proceedings of ASCLO in June 2003. All patients had advanced, untreated gastric cancer. Patients with potentially resectable primary cancer were not eligible for the study. Patients were stratified according to the level of weight loss, presence or absence of liver and peritoneal metastases, presence or absence of the primary carcinoma, and by center. Once patients signed an informed consent, they were registered and randomized to receive either DCF or CF. The doses and schedule of the DCF arm were: docetaxel 75 mg/m^2 on day 1, cisplatin 75 mg/m^2 on day 1, and 5-fluorouracil 750 mg/m^2 per day as continuous infusion on days 1–5 repeated every 3 weeks. The doses and schedule for the CF arm were: cisplatin 100 mg/m^2 on day 1 and 5-fluorouracil 1000 mg/m^2 per day as continuous infusion on days 1–5, given every 4 weeks. Even though the two regimens had different cycles, the response assessments were synchronized. This removed the bias in TTP assessments. All responses were independently reviewed and confirmed. TTP was the primary endpoint, and overall survival (OS) of the patients was the main secondary endpoint. Currently, results on 232 patients (115/117 in DCF/CF) are available, constituting the results of a planned interim analysis. The median age was 54 years, and 98% of the patients had metastatic cancer. The median administered dose intensity calculated by dose/week basis for 5-fluorouracil and cisplatin was the same for DCF and CF. The TTP was statistically superior ($P = 0.0008$) for DCF (5.2 months compared with 3.7 months for CF). This meant that patients receiving DCF had a 70% lower chance of having cancer progression than those receiving CF. The median survival time was longer for patients receiving DCF (10.2 months) than those receiving CF (8.5 months) ($P = 0.0064$). This meant that patients receiving DCF had a 50% lower risk of death than those receiving CF during the study. This P value did not cross the preset boundary at the interim analysis, but the conditional probability of DCF having a statistically median survival time superior to CF is 99.4%. The response rate was 39% for DCF and 23% for CF. This difference is statistically superior ($P = 0.012$). DCF can result in bone marrow suppression and increased risk of infection. Thus, neutropenic fever and the neutropenic infection rate, as expected, were higher from DCF than from CF. DCF can also cause diarrhea and mucositis. Careful patient selection is highly recommended. In addition, aggressive management of the side effects of DCF is essential. DCF should now be offered to all patients with advanced gastric or gastroesophageal junction cancer who are in good general condition. Further development of this regimen is also warranted. The V325 study was sponsored by Aventis. Recent data from Roth et al. (ASCO noncolorectal GI presentation in 2004) also demonstrated that the combination of docetaxel, cisplatin, and 5-flurouracil had a higher response rate and longer time-to-progression than docetaxel plus cisplatin, or epirubicin, cisplatin, and 5-flurouracil. The SAKK group has now decided to compare docetaxel, cisplatin, and 5-fluorouracil (as the experimental arm) with epirubicin, cisplatin, and 5-fluorouracil ("ECF" as a reference regimen). Thus two separate studies seem to establish the value of docetaxel in patients with advanced gastric or gastroesophageal adenocarcinoma.

Dr. Sasako, chief of surgery, National Cancer Center Hospital, presented results of surgical procedures in operable stomach cancer. In many solid tumors, surgery remains the major part of the treatment with curative intent. To establish a better standard treatment, many clinical trials have been carried out on multidisciplinary treatments, including surgery, and some on purely surgical procedures. Unlike drug treatment, the results of surgery are often hampered by the heterogeneity in the quality of treatment. The results of surgery are affected by the surgeons' skill, experience (learning curve), and personal preference. Experience includes not only the quality of surgery but also that of postoperative care. A Dutch trial on D2 dissection for gastric cancer provided a good example by showing the difficulty and importance of quality control of surgery and postoperative care. In this trial, more than 28% of patients who developed major complications died, whereas death occurred in only 9% of such patients in a Japanese specialist center, most likely due to lack of knowledge and experience of managing complications in participating hospitals. It seems that the hospital volume per year, while it was as small as 1.0 on average, was insufficient for carrying out D2 dissection safely. The impact of a significantly larger proportion of treatment-related deaths after D2 dissection was

too large to be redeemed by the treatment effect in the long term. This was also the case in two clinical trials on esophageal cancer in France and Germany reported in the 2003 ASCO meeting.

In the IT-0116 trial on adjuvant treatment of gastric cancer, adjuvant chemoradiotherapy (CRT) after curative surgery was shown to improve the survival of patients with gastric cancer. In this trial, 50% of patients underwent D0 dissection, 40% had D1, and only 10% had D2, in spite of the description of the protocol. Therefore, the results of this trial suggest that adjuvant CRT is effective for those who underwent limited surgery and for whom limited surgery is not a sufficient treatment for curable gastric cancer. From the large database of lymph node metastasis in Japanese patients, limited surgery theoretically often leaves metastatic nodes unresected, thus leading to recurrence. An in-depth analysis of this trial showed that surgical under treatment was an independent prognostic factor. This trial clearly showed that the effects of adjuvant treatment can differ depending on the type of surgery. To evaluate the efficacy of adjuvant treatment, the type of surgery should be defined in the protocol, and strict quality control of surgery is mandatory. Through the experience of planning and carrying out clinical trials on surgical treatment of malignant diseases inside and outside of Japan, the key issues in surgical trials on cancer treatment were discussed.

Dr. Blumgart, professor of surgery, Cornell University Medical College, spoke on "Surgical advances in hepatobiliary cancer." He focused his talk on hepatic resection. Hepatectomy has a long history, starting with a record of 1801 liver resections. Compared with results in the early twentieth century, blood loss has significantly decreased to about 500 ml, segmental resections have been developed, and the transfusion rate and operating time were down at the beginning of the twenty-first century. Even if the tumor is large and hepatocellular cancer invades a major vessel, the 5-year survival rate was 37% in 412 patients treated from 1991 to 1998 at Memorial Sloan-Kettering Cancer Center (MSKCC). Tumor size is closely related to patient prognosis.

Dr. Blumgart mentioned the indications for liver transplantation after partial hepatectomy. The objective was to determine the survival and recurrence pattern of the partial hepatectomy for patients with hepatocellular carcinoma (HCC) who have been selected for transplantation. In MSKCC, among 611 cases, 180 were resectable but only 36 (20%) met the Milan Criteria. The operative mortality of these 36 patients receiving partial hepatectomy with transplantation was 2.8%. In 20 recurrent cases, the 5-year survival rate was 57%, and for 14 no-recurrence patients, it was 93%. From these results, partial hepatectomy for patients otherwise eligible for transplant can be performed with reasonable morbidity and mortality.

Hepatic resection for metastatic colorectal cancer was not justified in the early 1950s because metastases are nearly always multiple. Although there is no randomized controlled trial to solve the problem of this issue, retrospective analysis demonstrates that resected cases showed a high survival rate compared with nonresected cases (38% vs 0%). At MSKCC, 1001 resections were conducted for metastatic hepatic carcinomas, and the number of 5-year survivors reached 136. Perioperative mortality was 2.8%, the 5-year survival rate 39%, and the 10-year survival rate 23%. Five clinical risk factors were identified by multivariate analysis: (1) node positive primary, (2) disease-free interval less than 12 months, (3) more than one tumor, (4) tumor size more than 5 cm, and (5) CEA greater than 200 ng/ml. These factors are important for patient selection and stratification in clinical trials.

Although the majority of the symposium topics concentrated on surgery, including lung cancer, gastrointestinal cancers, and hepatobiliary cancer, the peak number of attendees was less than 200; by the end of symposium it was less than 50. ASCO and JSCO were disappointed again with their joint scientific symposium. In the JSMO meeting it is possible for us to attract audiences of 700–1000. In 2005, JSCO will organize a symposium on the topic of "The Role of Board-Certified Medical Oncologists."

Facilitation of Problem Finding Among First Year Medical School Students Undergoing Problem-Based Learning

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Background: *Adaptation to problem-based learning (PBL) is a difficult process for high school graduates who are not used to self-directed learning, especially in the freshmen year of medical school. The difficulty includes finding problems from a given case.*
Purpose: *Evaluate the effect of an intervention to facilitate case-based problem finding among medical school freshmen undergoing a PBL tutorial.*
Methods: *Medical school freshmen in 2000 (nonintervened group) and 2001 (intervened group) participated in the study. The intervened group received the modified problem-based program by (a) having briefings on the importance of problem finding, (b) encouragement by the tutors in problem finding, and (c) reinforcement using a self-assessment sheet. At the end of the year, the ability of students to extract problems from a short case was evaluated and compared with the nonintervened students.*
Results: *The intervened group extracted a significantly greater number of problems than the nonintervened group. When extracted problems were categorized, the intervened group was able to generate more questions in a greater number of specified categories.*
Conclusions: *Interventions to foster problem finding significantly facilitated acquisition of problem extraction skills among young medical students.*

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A problem-based learning (PBL) tutorial is a learner-directed learning strategy widely used in medical education.[1,2] Medical schools that accept high school graduates receive freshmen that are used to a teacher-directed education rather than a learner-directed education. The transition of this learning environment among medical students is difficult. PBL has been integrated as a component of the preclinical curriculum at Tokyo Women's Medical University for over 10 years.[3] A PBL tutorial starts immediately after entry, as a part of the human biology curriculum. PBL has been used as a tool to learn basic sciences.[4,5] In the freshman year, cases given to students are not necessarily clinical cases but are related to natural or biological phenomena that reflect situations relevant to their future careers. The initial step of PBL is to find problems (questions, uncertain thoughts, or interests) from the given cases to be formulated as learning issues after discussions within a tutorial group.[6,7] To solve the problems found from the case, students must examine the case from various aspects to extract problems of a diverse nature.[8] In a pilot study, we found that early PBL learners had difficulties with extracting problems; a skill prerequisite to developing learning objectives.[9,10] In the study, nearly 40% of the students studied reported difficulties in finding problems from a given case in their PBL tutorial. In addition, over 80% of the students responded that they had difficulties in developing problems in diversified areas related to the case (unpublished data).

Based on the results of this pilot study, strategic interventions were initiated in 2001. The strategic intervention modified the conventional PBL program with three major strategies to enforce and motivate the freshmen students to extract problems and derive learning objectives. The purpose of this study was to address the effect of the modified strategies by examining whether the intervened students were able to extract more problems to be formed as learning issues, when compared to the nonintervened students.

Participants

A total of 207 female freshmen medical students participated in the study (Table 1). Except for 2 students, all were high school graduates. The intervened group (class of 2001) consisted of 1st-year medical school students in 2001 (n = 103). The nonintervened group (class of 2000–2001) consisted of 1st-year medical school students in 2000 (n = 104). Among the freshmen, a small number of repeaters and participants who did not take the examinations were excluded from the analysis. A total of 89 intervened and 95 nonintervened participants remained in the study.

To compare interclass variance, the nonintervened sophomores in 2000 (class of 1999) and sophomores in 2001 (class of 2000–2002) were compared (Table 2). The sophomores in 2001 (class of 2000–2002) were mostly the nonintervened freshmen in 2000 (class of 2000–2001) who advanced to their 2nd year.

Methods

We introduced three strategies to enhance self-directed problem findings among 1st-year medical students. We then evaluated if such interventions alter

Table 1. *Participants in the Modified PBL Program (Intervened) and the Conventional PBL Program (Nonintervened)*

Participants	Conventional PBL (Nonintervened) Class of 2000–2001	Modified PBL (Intervened) Class of 2001
1st-year students		
Number of participants	104	103
Repeaters	2	1
Noncompliant students	7	13
Total subjects studied	95	89

Note: PBL = problem-based learning.

Table 2. *Sophomores in the Conventional PBL Program*

Participants	Class of 1999	Class of 2000–2002[a]
Sophomore students		
Total number	100	105
Repeaters	1	5
Noncompliant students	11	20
Total students studied	88	80

[a]Sophomore students in the year 2001 were mostly the nonintervened freshmen (Class of 2000–2001) in the previous year.

problem-finding skill by the number of problems extracted as the outcome factors. The outcome factor was measured by giving an examination to both the intervened and the nonintervened freshmen, with which they were to find relevant problems in a diversified field of a given case.

Format of a PBL Program

A group of six to seven students and a tutor met four times (twice a week) to complete 1 case. The initial 4 cases in the freshman year are introductory PBL tutorials to familiarize the high school graduates with self-directed learning. All cases in the freshman year are parts of the human biology courses that integrate basic sciences (biology, physics, and chemistry) related to the human body and basic medical sciences (physiology, biochemistry, anatomy, pharmacology). Regular PBL starts from the fifth case, and 1st-year students complete a total of 11 cases. There are five sessions of lectures and workshops in the 1st year addressing self-directed learning and PBL. Students of the class are randomly assigned to 16 tutorial groups, and the groups are shuffled three times in 1 year. One tutor is assigned to 1 tutorial term. Tutors consisted of scholars and clinical teachers who are not necessary content experts. All tutors are trained for the PBL and tutoring, and most tutors (83%) in the study groups have tutoring experiences in PBL.

Interventions

In addition to the aforementioned described freshman year PBL program, the following interventions were given to the freshmen in 2001 (class of 2001) to enhance problem finding and problem solving: (a) Lectures with special emphasis on self-directed PBL to enhance learners' motivations were given. Repeated briefings on the importance of self-directed problem-finding and diversified problem identification were given. A demonstration to find problems from a clinical case was given; (b) Tutors gave special encouragement to students to identify problems in various fields. The tutors had tutor meetings every 2 weeks during the tutorial term to be briefed on the reinforcement program; and (c) A nonverbal reinforcement was given with a self-evaluation sheet to help students find problems and explore different resources.

Evaluation of Problem-Finding Capability

Evaluation was performed at the end of the year. Students of respective years had experienced the same number of cases at the evaluation time (i.e., 11 cases for the freshmen and 22 cases for the sophomores). Students were given short cases as shown in Table 3.

Table 3. *Short Cases Presented to the Freshmen and Sophomores for Extraction of Problems*

Freshmen	I played tennis yesterday after not playing for a long time. Now I have muscle ache.
Sophomores	Mr. Miyauchi, a 64-year-old man, had a sudden onset of chest pain in the morning.

Note: The freshmen and sophomores were given these statements to extract problems in 20 min. Students were instructed to extract problems related to three major areas: structural, functional, and social or behavioral.

The same cases were used for both freshmen and sophomores. Students were given 20 min to extract problems from the case. A problem was defined as the initial question or interest that came across a student's mind after reading the given case. The students were instructed to find problems that would form learning objectives, but students were not directed to consider specific areas. The problem lists were collected for analyses. The problems extracted by the students were categorized as follows: (a) macrostructure (normal), (b) microstructures (normal), (c) pathology (abnormal structures), (d) embryology or genetics, (e) physiology, (f) chemistry or biochemistry, (g) pathophysiology, (h) pharmacology, (i) clinical medicine, (j) social medicine or epidemiology, (k) behavioral or psychological medicine, and (l) nonmedical problems. The categorization was made by two independent researchers (Toshimasa Yoshioka and Taiyo Suganuma). The total number of problems extracted and the number of categories covered by each student were obtained.

Statistical analysis was performed using SPSS Version 11.5 The total numbers of extracted problems were compared by unpaired t tests after F tests showed no difference in the variance. The proportions of students who extracted problems related to each category were compared by Fisher's test ($p < .05$ was considered statistically significant for all data).

Results

Number of Problems Extracted by the Freshmen

The total number of problems extracted by the intervened group (class of 2001) was significantly higher when compared with the nonintervened group (class of 2000–2001; see Figure 1). The total number of problems extracted by the intervened students was almost the same as the nonintervened sophomores.

The nonintervened sophomores (class of 1999 and class of 2000–2002) showed no differences. The nonsignificant difference between the two sophomore classes meant that there was little class variance that could have influenced the interventional study. The

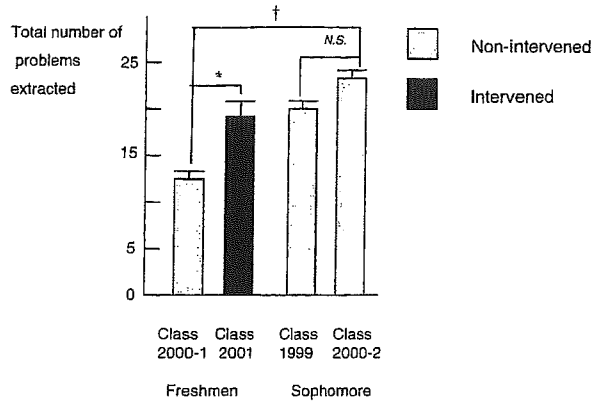

Figure 1. Comparison of the total number of problems extracted by students. Number of problems extracted from a short case by the freshmen and the sophomores are compared. Grey pillars denote non-intervened students and black pillar denotes intervened students. Values are mean ± SE.
*Significant difference between intervened and non-intervened students.
†Significant improvement by the conventional PBL method from freshman to sophomore year.
N.S. = Non-significant interclass variance.

class of 2000 to 2002 mostly consisted of the nonintervened freshmen (class of 2000–2001) who advanced to their 2nd year in 2001. A significant increase between the class of 2000 to 2001 and the class of 2000 to 2002 showed the natural improvement of the conventional PBL program.

Categories of Problems Extracted

The problems extracted by the students were categorized, and the results are presented in Table 4. Average numbers of category per student for the freshmen were 6.2 ± 0.2 for the intervened group and 4.7 ± 0.2 for the nonintervened group. A significantly greater percentage of the intervened group extracted problems categorized in microstructure, pathology, embryology or genetics, social medicine or epidemiology, behavioral or psychological medicine, and nonmedical problems. The intervened group performed equally or better in problem finding, and the difference was significantly greater in 6 out of the 12 categories. The results show that the intervened group was able to extract significantly more problems in more diversified categories than the nonintervened group.

For the sophomores, the average numbers of category per student were 6.8 ± 0.1 (class of 1999) and 7.1 ± 0.1 (class of 2000–2002), respectively. The nonintervened sophomores in different classes showed small and insignificant differences in their diversity of problem extraction except for pathology (Table 4).

Discussion

This study demonstrated that strategic interventions to facilitate problem finding significantly improved problem-extraction skill among medical school freshmen. The intervened students were able to extract more problems in more diversified areas when compared with the nonintervened students. The interventions reinforced the beginners who were not used to PBL or self-directed learning. The interventions fostered the initial step to PBL learning: problem-finding skill.

To formulate learning issues to solve problems from a PBL case that usually consists of various complex origins, the initial step is to form problems, questions, and uncertain thoughts.[7] Students did not just write any problem that they could think of but presented problems that were relevant to the case. Problems extracted were then evaluated, sorted, and some were solved during the tutorial group discussion.[1,7] Learning issues were formulated through discussion with some assistance by a tutor.[11,12] Difficulty in problem finding was found to be a common characteristic of medical school

Table 4. *Percentage of Students Who Listed Problems in the Different Categories*

	Freshmen		Sophomores	
Categories	Class of 2000–2001 (n = 95)	Class of 2001 (n = 89)	Class of 1999 (n = 88)	Class of 2000–2002 (n = 80)
Macrostructure	94.7	100.0	100.0	100.0
Microstructure	14.7	36.0*	17.0	30.0
Pathology	3.2	31.4*	87.5	100.0*
Embryology or genetics	4.2	16.9*	63.6	60.0
Physiology	98.9	98.9	100.0	100.0
Chemistry or biochemistry	61.1	68.5	13.4	11.3
Pathophysiology	47.3	45.4	87.5	91.2
Pharmacology	9.5	18.0	5.7	2.5
Clinical medicine	53.7	66.3	80.7	92.5
Social medicine or epidemiology	32.6	53.9*	80.7	86.3
Behavioral or psychological medicine	14.7	38.2*	38.6	32.5
Non-medical problems	27.4	55.1*	12.5	2.5

Note: Values are percentages of students who extracted at least one problem related to each category.
*$p < .05$. Fisher's test: Significant increase in the percentage of students who extracted problems related to the category.

freshmen in our pilot study. Whether problem-finding difficulty is unique to Japanese medical school freshmen who just graduated from high school is unclear. However, it is probable that most students have this characteristic due to prevailing teacher-centered learning education prior to the entry.[13] Development of problem-finding skill is one of the objectives in the early stages of PBL.[6,8]

In this study, problem-finding improvement was measured by the total number of problems extracted by the students. Although the number of problems found may not fully reflect the PBL objectives as a whole, number of problems found was thought to be the first step of problem-finding skill learned among the medical school freshmen. When comparing the intervened and the nonintervened groups, we were able to find significant differences in how students could increase the number of problems related to the case given after appropriate interventions were given. The fact that sophomores from different classes (class of 1999 and class of 2000–2002) who received no interventions showed identical ability to extract problems suggests that the improved performance of the freshmen was not due to class variance but due to the intervention. Moreover, the improvement of the intervened freshmen was almost close to the sophomores who were not intervened, suggesting that the intervention program was effective. We believe such problem-finding skill in PBL would lead to other fundamental skills for patient-based problem solving and clinical reasoning in later medical careers.[14,15]

Problems extracted by the students were grouped into different categories. The categories of problems extracted by the students demonstrated some characteristics of the improvement in problem finding as a result of interventions. The categories used were based on the context of the integrated curriculum in our medical school. Although the categories may not be totally inclusive of medical education, it gives a general idea of the area covered by the PBL.

Students who received interventions demonstrated an ability to expand problem finding in areas that they have not studied.[13] In our study, the students in the intervened group reflected not only the subjects learned in their problem extraction but also on subjects taught in the later years of medical schools such as pathology, social medicine or epidemiology, behavioral or psychological medicine, and clinical medicine. For example, embryology and genetics were not subjects covered in the freshman year, and few students from the nonintervened group related the case to this category. In contrast, some students of the intervened group extracted problems related to embryology and genetics as their initial thoughts. Embryology may not quite be relevant to the case presented in the study, and one may question whether quality of clinical problems identified directly relates to learning objectives in higher years. We consider the ability to generate questions in various areas important, and we valued these problems because clinical reasoning is not a defined or predetermined process; it requires flexible, diverse, and integrated thoughts.

Problems extracted were categorized by two evaluators. Inter- and intraevaluator variation was not measured. However, the evaluators were asked to group the problems into categories, and the results were compared. Matching of the problem categorization showed that 92.0% of the problems were grouped in the same categories between the two evaluators. The remaining problems were discussed between the evaluators and categorized again.

The nonintervened freshmen in 2000 (class of 2000–2001) showed a significant improvement in problem finding when they became sophomores in 2001 (class of 2000–2002). This reflects conventional PBL skill improvement acquired by the end of the 2nd year.

Our results showed a difference in performance between the intervened and the nonintervened groups among the freshmen. We showed that the intervened 1st-year students outperformed their controls. The result is important because our pilot study showed that 1st-year medical students found difficulties in problem-finding ability. We did not examine if the intervened students further improved and continuously outperformed the nonintervened students in their sophomore year. Data to examine sustained effect of the intervened freshmen remains to be studied. Acquisition of self-directed learning skills is affected by educational environment in the previous year. For long-lasting PBL tutorials, students need to be kept motivated in their learning. Proper imprinting of a PBL program at the initial stage may improve the outcome in later years in a cumulative manner. Despite these factors to consider, our assessment of the initial step showed favorable results.

To conclude, this study suggests that strategic problem-finding interventions facilitate acquisition of problem-finding skills among freshmen in medical school.

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特集

肺癌の緩和医療

保険医療となった癌緩和ケアチームとは

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要　旨

2002年4月より，癌緩和ケア診療加算が算定できるようになった。われわれの施設でも緩和ケアチーム（palliative care team，以下PCT）による診療を開始した。施設基準では緩和ケア医，精神科医，専従看護師がPCTのスタッフであるが，MSW，在宅，リハビリ，栄養士，薬剤師などの多職種により構成されるのが望ましい。診療を行っていくと，さまざまな問題点などが生じる。PCTを中心に一般病棟における緩和ケアについて述べる。

Key words：緩和ケア，緩和ケアチーム，大学病院，腫瘍学/palliative care, palliative care team, University hospital, oncology

1 はじめに

2002年4月より，保険診療として癌で入院した症例について緩和ケア診療加算が算定できるようになった。われわれの施設でも2003年5月から医学部の組織として緩和医療委員会を発足させ，2004年4月から診療加算を算定する緩和ケアチーム（palliative care team，以下PCT）による診療を開始した。このPCTを中心に一般病棟における緩和ケアについて述べる。

2 緩和ケアチームの歴史

緩和ケアの始まり[1]は1967年の英国St. Christopher's HospiceのCicely Saunders医師に端を発する。海外では専門病棟をもたないコンサルテーション型のPCTは，1970年代にニューヨークのSt. Luke's病院で移動型のホスピスケアチームが活動を始めたのが最初とされる[2]。1982年にはSt Thomas' Hospital[3]でThelma Batesらの手により本格的なPCTの活動が開始された。その後，英国だけでなくカナダやオーストラリアでも同様の形態が緩和ケア病棟の増加と並行して拡大した。500カ所以上のホスピス施設をも

Palliative Care Team with Japanese Health Insurance System
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つ英国でも，350チーム前後のPCTが活動している[4]。

一方日本では1981年には聖隷三方原病院に日本初のホスピス病棟が誕生した[5]。1990年の緩和ケア病棟加算と社会的な緩和ケア認知の普及により，緩和ケア病棟は増加した。

1992年，国立癌センター東病院に国立の施設として初めて緩和ケアユニット（PCU）が設立された。2004年6月現在で全国132カ所（2,507床）が認可を受けている[6]。一方で一般病棟における緩和ケアの必要性から，各病院でボランティア的に医師や看護師による緩和ケアが行われてきた。2002年4月から施設基準を満すと加算が算定できるようになった。

3 緩和ケアチームの必要性

緩和ケア病棟は増加しつつあるが年間約30万人が癌で亡くなっており，緩和ケア病棟での看取りは約4%に過ぎず絶対数が不足している。また家庭の事情などから在宅での最後を迎えることができる人は少ない。すなわち，癌で亡くなる人のほとんどが一般病院でなくなっているということである。したがって終末期医療においても，一般病院における緩和ケアの意義は大きなものである。1990年にWHO[7]は，「癌の診断時から終末期に至る全過程にQOLを重視した医療」を提唱し，現在では診断された時点から緩和ケアを行う必要があると考えられている。緩和ケア病棟入院料には末期の悪性腫瘍患者というただし書きがあるが，今回の緩和ケア診療加算においては末期という言葉はなく，入院患者であれば癌と診断された直後から診療を行うことが可能である。すなわち癌の初期診断から治療，再発の治療中から終末期までの一連の診療のなかで，癌の治療以外を円滑に行えるように支援することがPCTの大きな目的といえる。また終末期においても，在宅医療を希望される場合もあるし，癌の治療を行いながらの一般病棟での緩和ケアを希望される場合もある。緩和ケア病棟だけが終末医療の選択肢ではない。患者や家族の希望がかなえられるような医療サービスを提供できるようにする必要がある。このような緩和ケアの質を保つにはPCTとして多職種が介入すべきである。

4 緩和ケア診療加算

緩和ケア診療加算[8]（平成14年3月8日保医発0308001）は，一般病床に入院する悪性腫瘍または後天性免疫不全症候群の患者のうち疼痛，倦怠感，呼吸困難などの身体症状，または不安，抑うつなどの精神症状を持つ者に対して，患者の同意に基づきPCTによる診察が行われた場合に算定する。緩和ケアチームは身体症状および精神症状の緩和を提供することが必要である。初回の診察にあたり主治医，看護師などと共同のうえ「別紙様式2」（**図1**），またはこれに準じた緩和ケア実地計画書を作成し，その内容を患者に説明のうえ交付するとともにその写しを診療録に添付する。1日あたりの算定患者数は，1チームにつきおおむね30名以内とする。これが診療の概要であるが，これに施設基準[9]が決められている。まず，財団法人日本医療機能評価機構等が行う医療機能評価を受けていることが条件である。さらに身体症状の緩