

비교효과연구의 개념과 현황

20mins!

2012.11.30

LIgHT 이상무

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비교효과 연구의 기본 개념

Comparative
Effectiveness
Research

비교효과와 연구의 필요성

- 규제 임상허가의 한계
- 축적된 의료기술
- 불확실성이 있는 상태로 확산된 의료기술
- 의료기술 사용량의 변이
- 합의 부족
- 공적 자원의 활용의 건전성 제고

Regulatory Approval 만으로 부족한가?

Regulatory trials

- often intermediate outcomes
- short follow-up periods

Important gaps in evidence after regulatory trials

- information about risks, benefits, and costs in **real-world setting**
- questions of **comparative effectiveness** and value
- the risks and benefits of **combination therapy** with existing technologies
- **subgroups** who have larger or smaller effects than the average

왜 비교임상연구가 필요한가?

만성 골수성 백혈병 치료

임상적
요구
충족

nilotinib or dasatinib



imatinib

interferon a
+ citarabin

busulfan

A

B

NICE recommends nilotinib and standard dose imatinib for first line chronic myeloid leukaemia

In final **draft** guidance, NICE has recommended nilotinib (Tasigna) and imatinib (Glivec), both made by Novartis, for the first line treatment of CML (chronic myeloid leukaemia). Dasatinib (Sprycel), made by Bristol-Myers Squibb is not recommended.

This appraisal incorporates a partial review of previous guidance published in October 2003 where standard dose (400mg) imatinib was recommended for treating first-line CML (technology appraisal guidance 70).

In response to the draft guidance **NICE Chief Executive, Sir Andrew Dillon said:** "The draft recommendations reaffirm the use of imatinib as an effective treatment for the majority of patients and a cost effective use of NHS resources and we are also very pleased to be able to add a further treatment option for these patients, by recommending nilotinib.

"Although no trials directly comparing dasatinib and nilotinib were available, the committee concluded from indirect comparisons that dasatinib and nilotinib could be considered equally as effective in treating CML. However, the Department of Health and the manufacturer of nilotinib have already agreed to provide the drug to the NHS at a discounted price. This reduction in cost enabled the independent Committee to approve nilotinib for use on the NHS."

도입시기

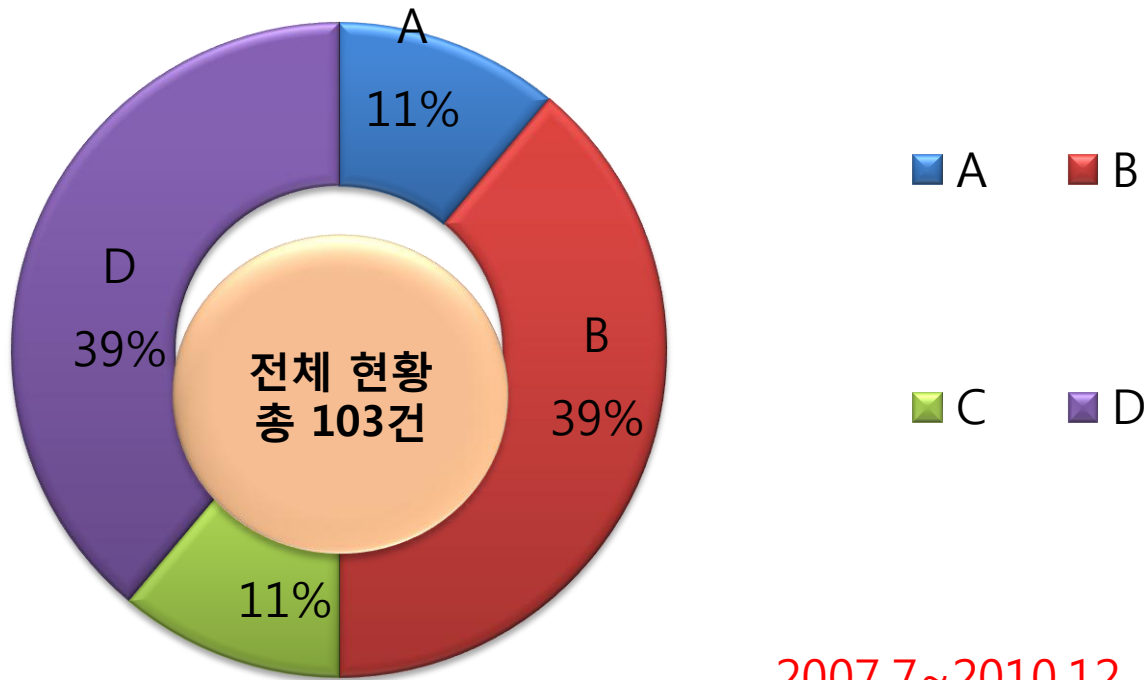
근거나 효과가 불확실한 일부 보편화된 의료기술

표 1-1 근거에 입각한 진료의 정도가 어느 정도인지 수행된 연구

연구자	문헌	대상	근거에 입각한 진료
Ellis J	Lancet, 1995	일반진료, 대학의 지역분원병원(영국)	82%
Gill P	BMJ, 1996	일반진료, 교외수련종합병원	81%
Lee, JS	Ann Thorac Surg, 2000	흉부외과계 수술, 3차 및 종합병원(북미)	78%
Khan, AT	BMC Womens Health, 2006	산부인과영역의 진료, 3차병원(영국)	90%
Lai TYY	Br J Ophthalmol, 2003	안과진료, 안과병원(홍콩)	77%

우리나라에서 수행된 연구⁵⁾에서도 1개 대학병원 가정의학과 외래진료 중 총 179예의 일차 진단명-일차치료의 짝을 분석한 결과 효과가 입증된 치료는 69.8%(125예), 무작위 배정 임상시험의 결과가 없어 전문가 자문을 얻어 근거 있다고 판정한 예 10.6%(19예), 치료에 근거 없다고 보고된 예 19.6%(35예)이었다.

진단법 제외 치료적 의료기술(권고등급)



2007.7~2010.12

구분	계	권고등급 A	권고등급 B	권고등급 C	권고등급 D
총계	18	2	7	2	7

NECA - 주제공모연구

만성 요통에 주사치료의 통증감소 효과

- 국내 요통환자 및 주사치료의 현황과
반복적인 주사치료의 장기적 영향 -

2009. 12. 31

요통환자의 진료 현황

구분	2006년(%)	2007년(%)	2008년(%)
요통환자 수	1,981,427	2,069,995	2,119,408
요통환자 총진료비	528,919,824,480	581,765,521,140	608,403,382,370
국소부위 주사치료 받은 환자의 비율(%)	10.8	11.0	11.5
국소부위 주사치료건수	213,796	227,432	244,640
국소부위 주사치료비용(총 진료비 중 차지 비율 %)	15,616,213,566(3.0%)	17,041,554,680(2.9%)	19,102,415,016(3.1%)

2. 체계적 문헌고찰

요통 및 요추부 질환 환자를 대상으로 한 주사치료의 장기적인 영향에 대한 체계적 근거를 확립하기 위하여, 6개월 이상 장기추적이 이루어진 임상시험 결과 문헌들을 검색하여 체계적 문헌고찰 기법을 이용하여 분석하였다. 주사치료제에 대한 기존 문헌들은 대부분의 경우 주사치료 간 비교 또는 플라시보(placebo) 주사와의 비교로 수행된 연구들이었으며, 분석에 포함 가능한 비침습적(non-invasive) 보존치료와 비교연구를 수행한 경우는 1건에 불과하였다.

요통에서 반복적인 주사치료가 장기적으로 볼 때 어떠한 영향을 주는지에 대한 연구가 희박하고, 간접적으로 보았을 때도 대조군에 비해 치료실패율에서 차이가 있다고 말할 수 없었다.

이에 요통에서 반복적으로 행해지는 주사치료의 장기적인 영향을 관찰하기 위한 잘 디자인된 전향적인 연구가 필요하며, 이에 따른 요통에서 반복적인 주사치료에 대한 적절한 가이드라인의 확립이 필요하다.

Table 2 Comparative effectiveness in treatment of nonspecific low back pain

	Acute	Chronic
Rest or bed rest	Strong evidence against	Strong evidence against
Traction	No evidence	Moderate evidence against
Antidepressants	No evidence	Moderate evidence against
Biofeedback	Unknown	Moderate evidence against
Epidural steroid injection	No evidence	Unknown
No nerve root pain	No evidence	No evidence
Cold	No evidence	No evidence
Heat	No evidence	No evidence
Injection into trigger points	No evidence	No evidence
Injection into ligaments	No evidence	No evidence
Massage	No evidence	No evidence
Shortwave diathermy	No evidence	No evidence
Ultrasound	No evidence	Limited evidence
Acupuncture	No evidence	Limited evidence
Corsets	Strong evidence for	Strong evidence for
Back exercises	Strong evidence for	Strong evidence for

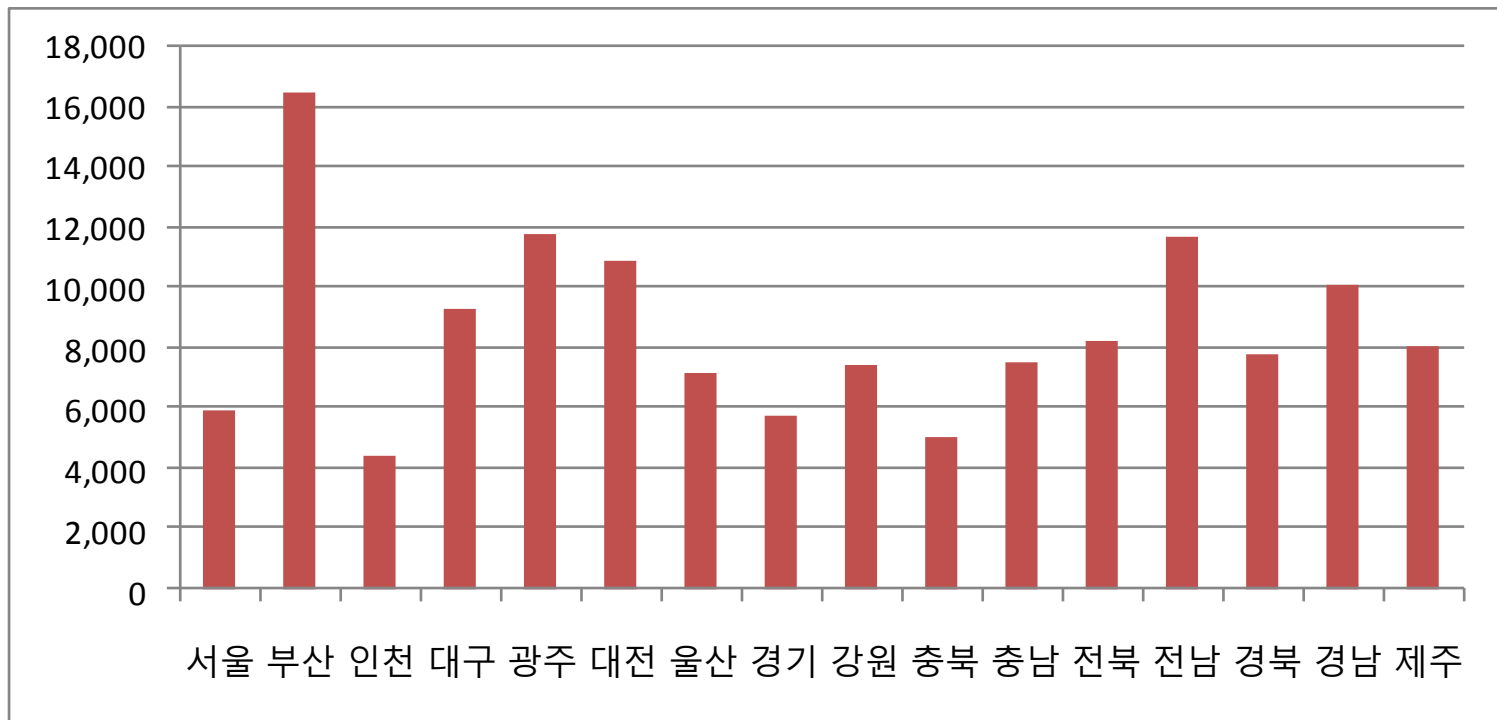
연구 결과 전문가 토론회

- 신경외과, 마취통증의학과, 재활의학과, 정형외과 전문가 초청
- 과간, 전문가간 요통의 주사요법에 대한 국소주사치료법의 효과 및 사용권장여부에 대해 이견



요통 신환자 주사치료 현황

◆ 지역별 요통 신환자 10만명당 주사치료 수진자 수



Existing, but ignored

		점수	2012년 의원급(원)
양방사선 골밀도검사	1부위	449.33	30779
	2부위	531.08	36379
정량적 전산화 단층 골밀도검사 QCT, PQCT		470.05	32198
방사선 흡수측정기 방식		176.33	12079
기타 방법(초음파 골밀도측정, 등)		284.00	19454

건강보험요양급여비용, 2012. 1월판, 건강보험심사평가원

Meta-Analysis: Accuracy of Quantitative Ultrasound for Identifying Patients with Osteoporosis

Smita Nayak, MD; Ingram Olkin, PhD; Hau Liu, MD, MPH, MBA; Michael Grabe, PhD; Michael K. Gould, MD, MS; I. Elaine Allen, PhD; Douglas K. Owens, MD, MS; and Dena M. Bravata, MD, MS

Background: There is increased interest in quantitative ultrasound for osteoporosis screening because it predicts fracture risk, is portable, and is relatively inexpensive. However, there is no consensus regarding its accuracy for identifying patients with osteoporosis.

Purpose: To determine the sensitivity and specificity of calcaneal quantitative ultrasound for identifying patients who meet the World Health Organization's diagnostic criteria for osteoporosis. Dual-energy x-ray absorptiometry (DXA) was used as the reference standard.

Data Sources: MEDLINE (1966 to October 2005), EMBASE (1993 to May 2004), Cochrane Central Register of Controlled Trials and Cochrane Database of Systematic Reviews (1952 to March 2004), and the Science Citation Index (1945 to April 2004).

Study Selection: English-language articles that evaluated the sensitivity and specificity of calcaneal quantitative ultrasound for identifying adults with DXA T-scores of -2.5 or less at the hip or spine.

Data Extraction: Two authors independently reviewed articles and abstracted data.

Data Synthesis: The authors identified 1908 potentially relevant articles, of which 25 met the inclusion criteria, and calculated the sensitivity and specificity of quantitative ultrasound over a range of thresholds. For the quantitative ultrasound index parameter T-score

cutoff threshold of -1 , sensitivity was 79% (95% CI, 69% to 86%) and specificity was 58% (CI, 44% to 70%) for identifying individuals with DXA T-scores of -2.5 or less at the hip or spine. For a T-score threshold of 0, sensitivity improved to 93% (CI, 87% to 97%) but specificity decreased to 24% (CI, 10% to 47%). At a pretest probability of 22% (for example, a 65-year-old white woman at average risk), the post-test probability of DXA-determined osteoporosis was 34% (CI, 26% to 41%) after a positive result and 10% (CI, 5% to 12%) after a negative result when using a T-score cutoff threshold of -1 . Analysis of other quantitative ultrasound parameters (for example, broadband ultrasound attenuation) revealed similar estimates of accuracy.

Limitations: The relatively small number of included studies limited the authors' ability to evaluate the effects of heterogeneous study characteristics on the diagnostic accuracy of quantitative ultrasound.

Conclusions: The currently available literature suggests that results of calcaneal quantitative ultrasound at commonly used cutoff thresholds do not definitively exclude or confirm DXA-determined osteoporosis. Additional research is needed before use of this test can be recommended in evidence-based screening programs for osteoporosis.

*Table 1. Robustness Analysis Results for the Quantitative Ultrasound Index Parameter**

Quantitative Ultrasound T-Score Threshold	Range of Summary Estimates of Sensitivity, Individual Studies Removed, %	Range of Summary Estimates of Specificity, Individual Studies Removed, %
0.0†	90–94	15–32
–0.5†	84–89	32–45
–1.0	76–82	56–60
–1.5†	58–70	72–77
–2.0	37–57	81–90
–2.5	21–45	88–96

We conclude that calcaneal quantitative ultrasound results at commonly used screening thresholds seem to be insufficient to rule out or rule in DXA-determined osteoporosis. This does not necessarily imply that calcaneal quantitative ultrasound may not have a role in screening individuals for osteoporosis. However, additional research that evaluates treatment efficacy for persons selected on the basis of quantitative ultrasound results and the cost-effectiveness of screening strategies that incorporate quantitative ultrasound is needed to determine whether use of this test can improve outcomes for patients with osteoporosis.

골다공증치료제 급여기준

보건복지부 고시 제2012-139호

1. 아래와 같은 기준으로 투여시 요양급여를 인정하며, 허가사항 범위이지만 동 인정기준 이외에 투여하는 경우에는 약값 전액을 환자가 부담토록 함.

- 아 래 -

◦ 칼슘 및 Estrogen제제 등의 약제

골밀도검사상 T-score가 -1 이하인 경우(T-score \leq -1.0)

◦ 칼시토닌(살카토닌, 엘카토닌), raloxifene제제, bazedoxifene제제, 활성형 Vit D3제제 및 bisphosphonate제제 등의 약제(검사결과지 첨부)

가. 투여대상

1) Central bone[요추, 대퇴(Ward's triangle 제외)]: Dual-Energy X-ray Absorptiometry (DXA)를 이용하여 골밀도 측정시 T-score가 -2.5 이하인 경우(T-score \leq -2.5)

2) 정량적 전산화 단층 골밀도 검사(QCT) : 80mg/cm³ 이하인 경우

3) **상기 1), 2)항 이외: 골밀도 측정시 T-score가 -3.0 이하인 경우(T-score \leq -3.0)**

.....

골다공증 환자 중 의료기관을 통해 치료를 받고 있는 환자 수는 국민건강보험공단의 통계 연보(ICD code M80 & M81)를 기준으로 2003년에는 약 44만명에 달하여 2001년에 비해 27% 증가하였으며, 2006년 49만 명, 2007년 55만 명, 2008년에 62만 명으로 최근 증가추세에 있다(대한골대사학회, 2008; 국민건강보험공단, 2008). 2008년 골다공증

합의 부족



INSTITUTE OF MEDICINE
OF THE NATIONAL ACADEMIES

- 어떤 진료를 어떻게 사용하는 것이 가장 효과적인 결과를 가져오는 지 알려진 것이 부족하여 합의점을 찾기 힘들.
- 어떤 의료가 가장 효과적이며 국민에게 가장 좋은 결과를 가져올 것인지에 대하여 더 나은 지식이 필요함
- 더 나은 지식은 합의점을 가져다 줄 것임.
- 이러한 권고가 미국에서 수 조원에 달하는 비교효과 연구 투자의 시금석이 됨

(Eden J. Knowing what works in health care: A roadmap for the nation, IOM, 2008. The national academies press. Washington DC, USA.)

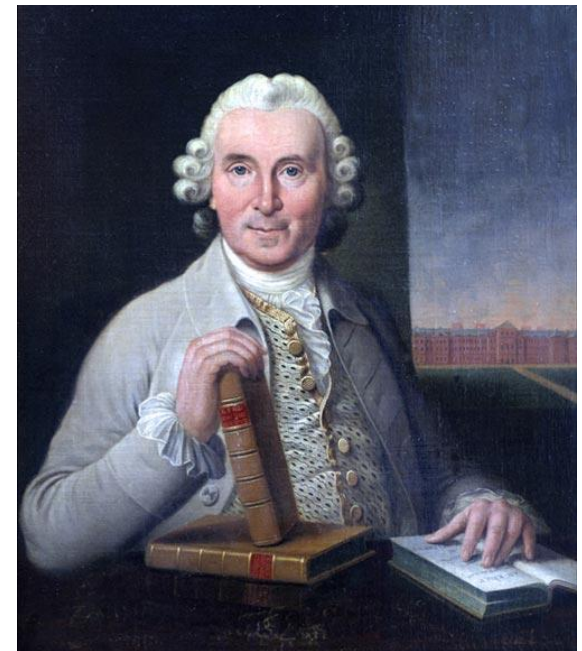
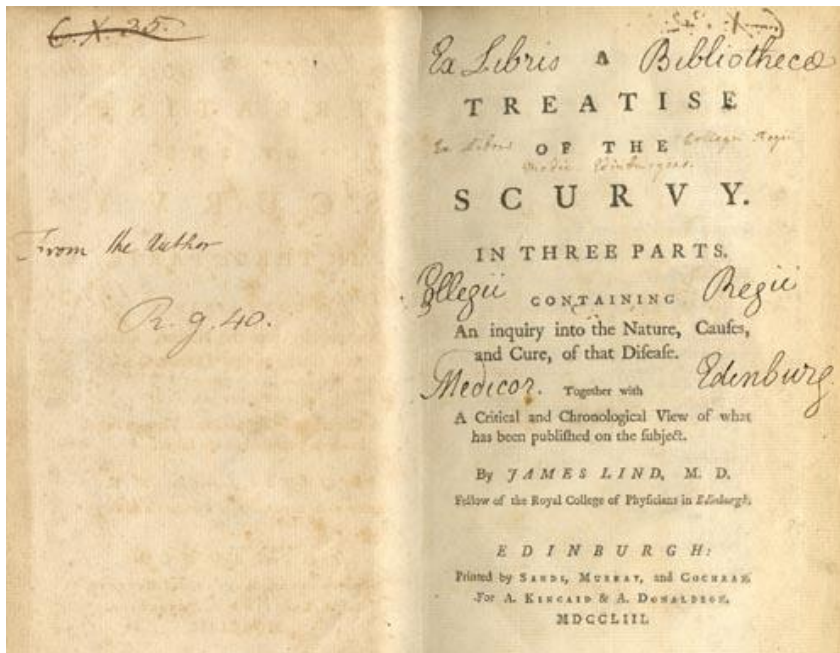
오래된 개념, 새 용어?

New Terms for Old Concepts....

History of CER

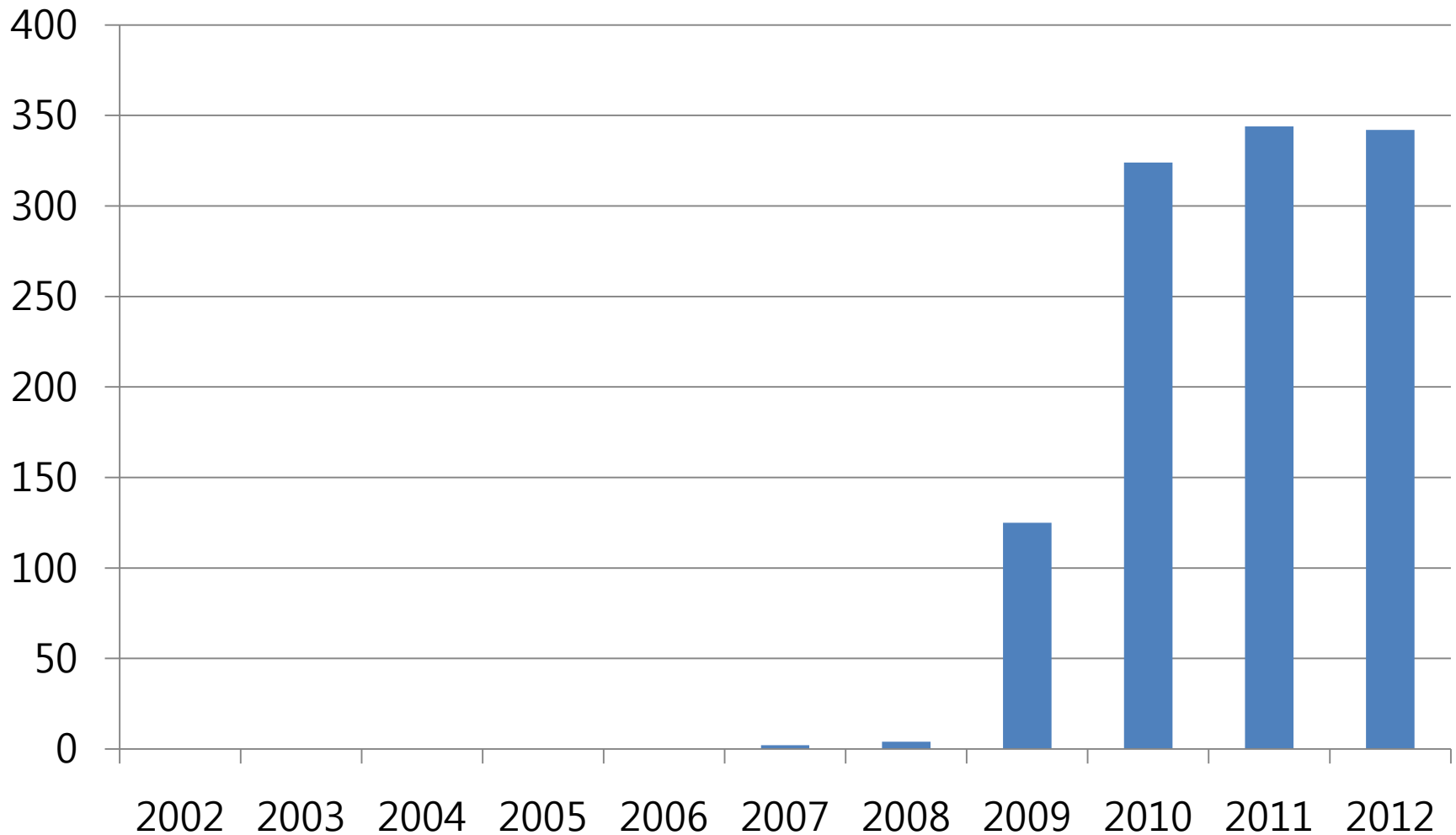
-a relatively recent term, but the idea of evaluating “real world” treatment options dates back to antiquity: Concato J. J Inv Med 2010-

James Lind compared various treatments for scurvy (in 1753); providing citrus fruits led to resolution of symptoms, whereas vinegar, cider, and other remedies did not.



James Lind (1716-1794)

“comparative effectiveness research” phrase 검색-PubMed



목차

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2. 외국의 비교효과연구의 현황
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4. 결론

The IOM definition of CER

*“Comparative effectiveness research is **the generation and synthesis of evidence** that compares the benefits and harms of **alternative methods** to prevent, diagnose, treat, and monitor the or improve the delivery of care. The purpose of CER is to assist consumers, clinicians, purchasers, and policy makers **to make informed decisions** that will improve health care at both the individual and population levels.”*

The key elements of this definition are
the direct comparison of effective interventions,
the study of patients in typical day-to-day clinical care,
and the aim of tailoring decisions to the needs of individual patients.

Health Care Reform and the Need for Comparative-Effectiveness Research

- CER can substantially reduce future **health care spending** and improve **the quality of care**
- **The findings from CER will provide a buffer against “blind” cost containment.**
 - For patients with MI and nonsustained VT, expensive implantable defibrillators have been shown to be more effective than medications and to be an efficient use of resources in terms of the cost per life-year gained
- **The identification and validation of new treatments**
 - inexpensive diuretic medications; more effective than more-expensive treatments such as ACE-I, calcium-channel blockers, and alpha-blockers. (ALLHAT)
- **CER should also improve medicine in other ways.**
 - disincentives for the development of “me-too” drugs and devices unless it is also proven to be superior to currently available therapies or diagnostic devices.
 - the research and development that will bring to the marketplace not only superior therapeutics, but also equivalent interventions that are cheaper than their predecessors and therefore more cost- effective.
 - On the basis of CER, our drug and device industries will be encouraged to develop products that really matter.
- **CER will be a stimulus for the academic medical and public health communities**
 - to develop a research agenda that is responsive to the needs of the clinical community, providing health care professionals with information for clinical decision making.



JULY 2010

Issues in International Health Policy

Use of Comparative Effectiveness Research in Drug Coverage and Pricing Decisions: A Six-Country Comparison

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LSE HEALTH, LONDON SCHOOL OF ECONOMICS AND POLITICAL SCIENCE

Table 1. Key Drug Review and Decision-Making Bodies in Select Countries, 2009

Country	Assessment Process			Appraisal Process	
	Review Body	Function	Role	Relationship to Government	Coverage and Pricing ^a
Denmark	Reimbursement Committee of the Danish Medicines Agency (DKMA)	Coverage	Regulatory	Integrated	DKMA
England	National Institute of Health and Clinical Excellence (NICE)	Coverage	Regulatory	Arms-length	NICE
France	Evaluation Committee for Medical Products of the National Health Authority (HAS)	Coverage	Advisory	Integrated	Ministry of Health and Sport (coverage)
	Economic Committee for Health Products (CEPS)	Pricing	Regulatory		CEPS (pricing)
Germany	Institute for Quality and Efficiency in Health Care (IQWiG)	Coverage	Advisory	Arms-length	Federal Joint Commission and Ministry of Health
Netherlands	Health Care Insurance Board, Committee for Pharmaceutical Aid (CHF)	Coverage and Pricing	Advisory	Integrated	Ministry of Health, Welfare, and Sport (coverage and pricing)
Sweden	Dental and Pharmaceutical Benefits Board (TLV)	Coverage and Pricing	Regulatory	Arms-length	TLV (coverage and pricing)

Note: All countries (except France) also have dedicated national agencies that primarily coordinate and disseminate assessment reports on drugs and other health technologies and interventions. However, they are not involved in making drug coverage decisions. For further information on these agencies, see M. Velasco Garrido, F. B. Kristensen, and C. P. Nielsen et al., *Health Technology Assessment and Health Policy-Making in Europe: Current Status, Challenges and Potential* (Copenhagen: World Health Organization, 2008).
^a Denmark, England, and Germany operate a free pricing system, with prices generally set by industry. However, manufacturers must notify the DKMA, Department of Health, and the Federal Association of Sickness Funds in Denmark, England, and Germany, respectively, with prices.

Source: C. Sorenson, M. Drummond, and P. Kanavos, *Ensuring Value for Money in Health Care: The Role of Health Technology Assessment in the European Union* (Copenhagen: World Health Organization, 2008).

Table 2. Comparative Drug Review Methods Used in Select Countries, 2008

	Denmark	England	France	Germany	Netherlands	Sweden
Selection criteria for drugs to review	Every new drug ^a	Drugs referred by Department of Health, which are then prioritized based on a variety of criteria, such as health impact, disease burden, and clinical/policy relevance	Every new drug ^a	Drugs referred by the Federal Joint Commission, which are considered to have potential health/cost impact, or where available evidence is inconclusive or controversial. Typically, these are drugs that cannot be easily classified under the reference pricing system.	Drugs that cannot be classified under reference pricing system	Every new drug ^a
Evidence requirements	RCT data preferred; health economic information recommended, but not required Source: Evidence from manufacturer dossier	RCT data preferred; health economic information required Source: Systematic reviews and analyses of clinical and economic studies; may or may not include manufacturer data	RCT data preferred; health economic information recommended, but not required Source: Evidence from manufacturer dossier	RCT data preferred; health economic information required Source: Systematic reviews and analyses of clinical and economic studies; may or may not include industry data	RCT data preferred; health economic information required Source: Evidence from manufacturer dossier	RCT data preferred; health economic information required Source: Systematic reviews and analyses of clinical and economic studies; may or may not include manufacturer data

	Denmark	England	France	Germany	Netherlands	Sweden
Preferred or required approach (for health economic component)	N/A	CEA ^b CUA	CEA CUA CMA	Efficiency frontier analysis	CEA CUA	CEA CMA
Choice of comparator	N/A	Current best alternative or routine treatment	Three comparators required from same therapeutic group: most frequently used cheapest most recently added to the positive list	Most effective treatment, most widely used, or routine treatment	Routine treatment	Three comparators required from same therapeutic group: routine treatment nonmedical intervention no treatment
Principal outcome measures	N/A	Mortality Morbidity Quality of life	Mortality Morbidity Quality of life	Mortality Morbidity Quality of life	Mortality Morbidity Quality of life	Mortality Morbidity Quality of life Willingness to pay

Table II. Recent practice-influencing trials funded by the National Institute for Health Research (NIHR) in the UK

Trial	Finding
Bells	Appropriate treatment for Bell's palsy: early treatment with corticosteroids is effective but antivirals are ineffective in treating Bell's palsy ^[41]
3CPO	Evaluation of non-invasive ventilation in cardiac failure in emergency medicine: in patients with acute cardiogenic pulmonary oedema, non-invasive ventilation induces a more rapid improvement in respiratory distress and metabolic disturbance than standard oxygen therapy but it does not improve short-term mortality ^[42]
EVAR	Comparison of endovascular vs open repair of abdominal aortic aneurysms: endovascular repair was associated with a significantly lower operative mortality than open repair. But there was no difference in mortality, and endovascular repair was associated with increased rates of graft-related complications and reinterventions and was more costly ^[43]
VenUS II	Larval therapy for leg ulcers: larval therapy was shown to be no more effective than other available treatments in chronic leg ulcers ^[44]
CESAR	Conventional ventilatory support versus extracorporeal membrane oxygenation for severe adult respiratory failure: adult patients with severe but potentially reversible respiratory failure should be transferred to a centre with an ECMO-based management protocol to significantly improve survival without severe disability. This strategy is also likely to be cost effective in settings with similar services to those in the UK ^[45]
NACHBID	Neuroleptics for treating harmful behaviour in adults with intellectual disability: antipsychotic drugs should no longer be regarded as an acceptable routine treatment for aggressive challenging behaviour in people with intellectual disability ^[46]
CRASH-2	The effect of tranexamic acid on intracranial bleeding among CRASH-2 trial participants. Tranexamic acid safely reduced the risk of death and should be considered for use in bleeding trauma patients ^[47]

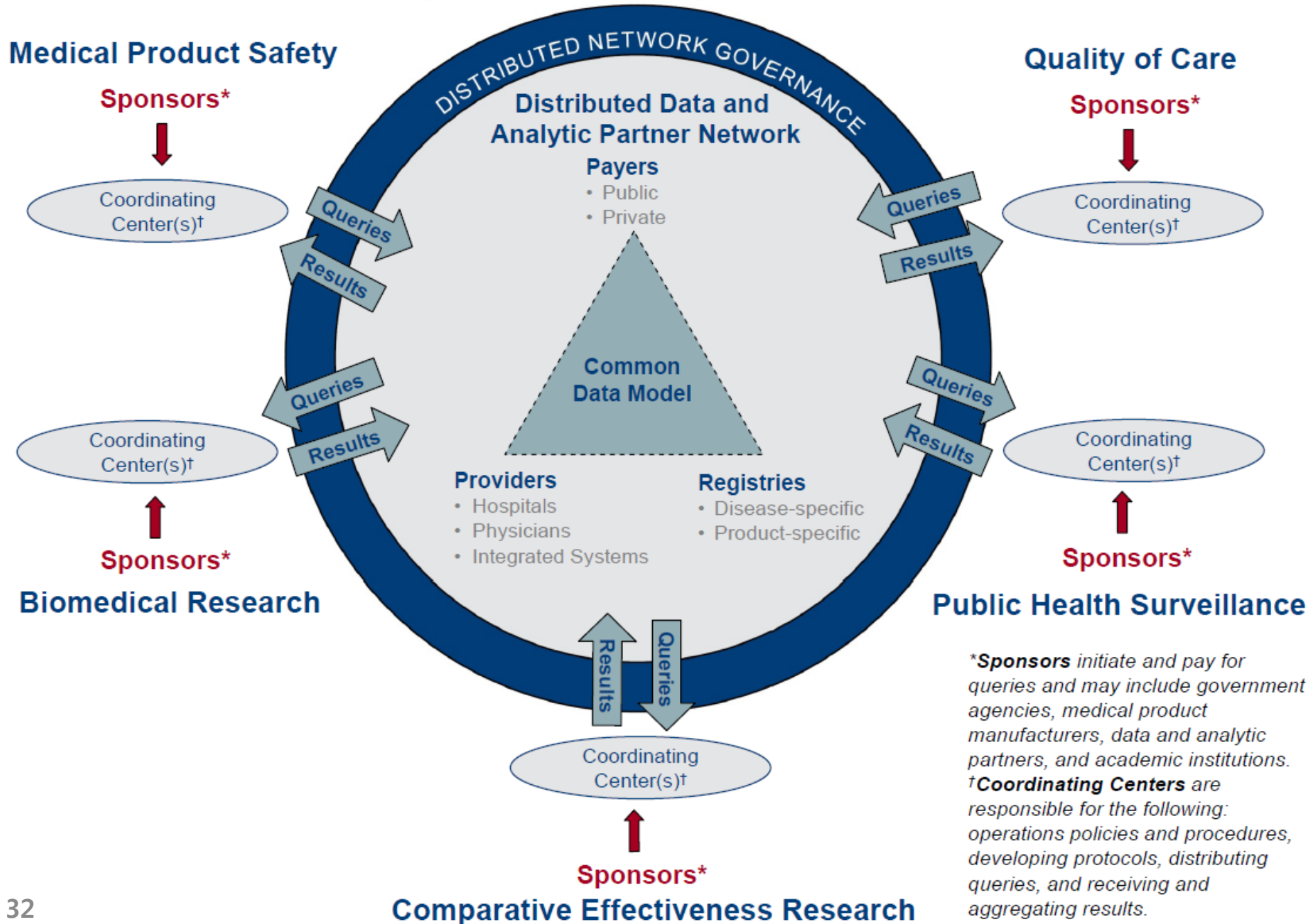
ECMO = extracorporeal membrane oxygenation.

미국의 CER

- CER연구에 대한 투자 증가
 - 2010: US\$ 1.1 billion
 - the scheduled federal funding will rise to nearly US\$500 million annually in 2014
- CER에 대한 관심의 증가
 - 600 comments on its draft definition of patient-centered outcomes research
 - the payer's needs of essential information about comparative data against alternative treatments for reimbursement decisions,
- 연구 기반 수립
 - US FDA Mini-Sentinel project
- CER연구 결과 확산방책에 대한 담론
 - AHRQ의 지원
- CER 연구 결과에 대한 부적절한 적용 우려
 - Suboptimal care
 - Cost containment

Robert W Dubois. JCER 2012
Robert S Epstein. JCER 2012

Potential Future Scope of Secondary Electronic Health Information





Suggest a Patient-Centered Research Question

Tell us what health care question or decision you may be facing

[SUBMIT A QUESTION >](#)



More News From PCORI

PCORI Approves Revised Methodology Standards

Board adopts 47 revised Methodology Standards to guide the conduct of patient-centered outcomes research [more →](#)

PCORI Issues RFP for Comprehensive Inventory of Research Networks

Contract will help PCORI understand platforms conducive to patient-centered outcomes research [more →](#)

Program Head on Improving Healthcare Systems Chosen

PCORI Names Chad Boulton, MD, MPH, MBA, Johns Hopkins Professor and CMS Advisor to Head Program [more →](#)

Get Involved



Join the PCORI community as a reviewer. We're looking for health care scientists and non-scientist stakeholders (patients, caregivers, clinicians, payers, industry, and advocacy group representatives, etc.) to review research applications submitted in response to our funding

Funding Opportunities



PCORI has launched its second cycle of funding requests for up to \$96 million in comparative clinical effectiveness research designed to help patients and those who care for them make better-informed health and health care decisions.

Meetings & Events



Next Meeting

12/04/2012

What Should PCORI Study? A Call for Topics from Patients and Stakeholders

Hilton Alexandria Mark Center
5000 Seminary Road
Alexandria, VA

The PCORI Blog



Nov 8, 2012

Accelerating Patient-Centered Outcomes Research and Methodological Research

"Infrastructure" is one of the buzzwords of the moment, and "research infrastructure" is mentioned just about as often. But here at PCORI, we know

목차

1. 비교효과연구의 역사와 배경
2. 외국의 비교효과연구의 현황
3. 우리나라의 현황
4. 결론

국내 비교효과연구 현황

-NECA-

연구	주요결과	정책결정상 의미
(만성기도질환 환자에서) 흡입용 기관지확장제 및 스테로이드 사용 현황 및 비교효과 연구	ICS 비사용자에 비해 ICS 사용자의 폐암 발생 위험이 0.79배 낮았고 ICS 비사용자에 비해 ICS 사용자가 결핵 발생 위험이 1.23배로 높았음, ICS 단독사용은 폐렴으로 인한 입원 또는 응급실 방문을 위험을 1.73배 증가시켰으나, ICS와 LABA의 병용은 0.63배로 위험을 감소시켰음	각 흡입제 종류별 이득과 위해를 이해함으로써 이에 대한 사전 대책 및 주의
흉통 환자에서 허혈성 심질환의 진단을 위한 관상동맥 CT의 유효성 및 경제성 분석	진단 정확도는 관상동맥조영술을 gold standard로 관상동맥CT에서 양성결과 우도비 14.14, 음성결과 우도비 0.45로 정확도가 가장 높았고, 이외 심근스펙트, 부하심전도 순이었다.	급성 흉통 환자의 진단 검사 선택시 주요 정보 제공
급성 심근경색증 환자에서 약물방출 스텐트와 금속 스텐트의 비교	약물방출 스텐트는 비약물 금속스텐트에 비교하여 심근경색증 재발(rr=0.76, 95%ci 0.60-0.96, p=0.02), tvr(rr=0.48, 95%ci 0.41-0.56, p<0.0001), tlr(rr=0.42, 95%ci 0.33-0.54, p<0.0001)의 발생을 유의하게 감소시키는 것으로 나타났다.	의료인 및 정책 결정자에게 정보 제공,

목차

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4. 결론

결론

- CER의 개념은 새로운 것이 아니나 본격적으로 국가적으로 정책 결정을 위해 이에 대한 목적을 분명히 하고 연구에 투자한 것은 최근의 일임
- 근거에 있어 불확실성은 합의의 부재를 초래하고 의료기술사요의 변이의 원인 중 하나가 되며 장기적으로는 의료의 질적, 자원의 소모를 가져올 수 있음
- 건강보장체계에서 의료의 질과 자원 사용의 합리적 사용을 위해 CER에 대한 투자가 필요 함

감사합니다.