nonmortality outcomes averaged over multiple domains (ie, physical, social, and psychological functioning and well-being). Consideration of QOL is essential for the selection of a treatment option, particularly when conditions are noncurative and chronic.[15] Therefore, it is not surprising that physicians who regularly see older patients with multiple chronic conditions consider QOL the most important health care outcome. On the other hand, the term QOL may not be familiar to many health care recipients, and we cannot exclude the possibility that QOL might be confused with other terms, such as standard of living.

Most health care recipients ranked effective treatment of diseases as the most important, suggesting that patients are concerned about their own particular symptoms rather than nonspecific QOL, arguing for efforts to examine the symptoms most concerning to patients. The high importance of effective treatment of diseases ascribed by health care recipients, but not physicians, also implies the significance of the often-neglected aspect of inappropriate prescribing in older adults: underuse of medication likely to be beneficial to older adults. Increased evidence has suggested that failure to prescribe indicated, beneficial medication is common in older adults,[7,8,16] and recent attempts to provide an explicit list of appropriate, indicated medication for older adults are justified.[10]

Interestingly, views on patient satisfaction were also different. All physician groups ranked patient satisfaction as the second top priority, whereas health care recipients considered this to be less important. This tendency has been demonstrated in a prior small study in England more than 15 years ago.[12] Recently, patient satisfaction has been increasingly used to measure health care qualities and compare health plans or physicians.[17] However, our finding may argue against the value of patient satisfaction as a performance measure in geriatric medicine, especially in light of recent evidence suggesting that higher patient satisfaction is accomplished at the sacrifice of increased use of health care resources and may not be directly associated with technical quality of care or improved outcome.[17,18]

We observed agreement on several items between health care providers and recipients. The importance of physical and mental function, such as maintaining activity or improving physical function, was expressed by both health care providers and recipients. This finding was consistent with prior studies in older adults with multiple chronic conditions[12,19] or terminal conditions,[20,21] suggesting that physical and mental function should be an essential factor to consider as a health care outcome in various care settings for older patients.

Reduction in mortality was given the lowest priority by all the groups in health care providers and recipients alike. This view is similar to that observed in previous studies.[12,19] This finding supports the contention that treatment interventions should be assessed in terms of reduced morbidity and improved QOL in addition to reduced mortality.

In this survey, respondents' characteristics, except age, had limited influence on their views on health outcome prioritization within each group. Geriatricians older than 60 years and community-dwelling adults older than 75 years gave higher priority to effective treatment of diseases compared with their younger counterparts. This suggests that health outcome priorities may not be stable, and can change as respondents age or differ from generation to generation. The cross-sectional design of our survey prevented us from separating the age effect from the secular trend, and further studies will be required to examine the time- or setting-dependent variability of health outcome prioritization.

This study has several limitations. First, although the average response rate was high for a postal survey, it was lower in physician groups than in health care recipient groups (26% to 48% vs 44% to 61%, Table 1). Thus, selection bias cannot be excluded. Second, it was not sure that health care recipients, particularly adult day care participants, correctly understood the study terminology. Third, some of the items used in the survey were not mutually exclusive. Nevertheless, a similar trend in priorities of outcome measures according to either side of health care providers or recipients suggests that the overall results were not significantly affected by these limitations.

Conclusion

We demonstrated that there was significant agreement and disagreement of health outcome prioritization between health care providers and recipients in geriatric medicine. Health care providers and recipients agreed on high priority for function and low priority for reduction in mortality, but there was obvious disagreement in how they perceived QOL, treatment effect, and patient satisfaction as goals of care. Such disagreement necessitates better communication between providers and recipients to reach goals of care that are mutually understandable and tailored to meet patients' specific needs. The low importance of reduction in mortality and patient satisfaction ascribed by health care recipients may question the value of these outcomes as a way to assess treatment interventions and quality of care. We propose that the priorities of health care outcomes and their differences between providers and recipients demonstrated in this study should be taken into account in the health care of older patients and the design of health care policies and research.

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講演II

認知症と転倒

神﨑　恒一*

1 はじめに

一般に高齢者は屋内外問わず転倒しやすい．厚生労働省の班研究でまとめた高齢者の転倒に関する疫学調査研究によると，75歳未満では20%，85歳以上では40%近くの方が1年間に1回以上転倒している．

人が歩く際，視覚や聴覚の情報，バランスを取るための平衡覚，体を支え動かす脊椎や筋肉，末梢神経として深部知覚や位置覚は重要である．そして，これらを統合するかたちで，大脳・小脳が機能する．これらが全て強調して働くことで，初めてバランスをとった歩行が可能になる．しかし高齢者では，加齢に伴い，様々な機能が低下し，それに伴い歩行機能は低下し転倒するようになる．歩行障害，転倒の原因が多岐にわたることは，原因究明が難しく，介入が難しいことの最も大きな原因である．

2 高齢者における転倒リスク

59のナーシングホーム在住の2,015名の高齢者を対象とした2年間の前向き研究の結果，転倒のリスクとして，認知症，女性，不安定歩行，徘徊，転倒の既往などが挙げられている[1]．この報告によれば，認知症の相対リスクは1.74倍とされている(表1)．

転倒に関するメタアナリシスの結果，認知機能低下(MMSE26点未満)群は，重度の転倒に伴う外傷の発生リスクが2.13倍と高い(図1)[2]．

転倒に関する論文は多いが，興味深い論文を発見したので紹介する[3]．この研究では対象者に一定の速度で周回するよう指示するが，それだけならばスピードのバラツキは小さい．しかしながら，数字の順唱をしながら一定速度で歩くよう指示すると，スピードのバラツキが大きくなる．バラツキは認知機能の低下と相関した．歩くことだけに集中していれば，歩行は安定しているが，同時に別の作業があると，歩行への注意が落ち，歩行が不安定になる．おそらくこのような状態では転倒しやすくなるのではないかと思われる．本研究は転倒原因を知る上で興味深い論文である．

3 転倒リスクの評価方法

杏林大学病院もの忘れセンターでは，認知機能の評価と同時に，うつ傾向，家族の介護負担，転倒リスクなど様々な角度から患者やその家族をみるようにしている．そのために，認知機能検査，画像検査以外に様々な転倒関連検査を行っている(表2)．

3 m Up & Go testは，座った位置から3 m離れた目印まで，歩いて回って戻り椅子に座るという一連の動作を評価するものであるが，歩行だけでなく，方向転換，椅子から立ち上がる，椅子に座るという複合動作をみることができるため，転倒の評価に有用である．

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表 1 Risk factors for falls (measured on admission) in newly admitted residents of 59 Maryland Nursing Homes, 1992~1995 (n=2,015)

Risk factor	Prevalence	Association with falls		
		Relative risk	95% Confidence interval	p-value
Dementia, %	48.2	1.74	1.34~2.25	<0.001
Age, mean±SD*	81.4±7.6	0.99	0.90~1.10	0.878
Female, %	70.4	1.34	1.13~1.60	0.001
White, %	81.3	1.54	1.21~1.98	0.001
Married, %	24.1	1.31	1.08~1.60	0.007
Education, years, mean±SD*	10.7±3.9	1.07	0.97~1.18	0.177
Admitted from hospital, %	72.3	0.79	0.64~0.97	0.024
Number of ADL dependencies, mean±SD*	3.8±2.0	0.95	0.88~1.03	0.277
ADL deterioration, %	44.8	1.13	0.94~1.36	0.194
Resident feels capable of improving ADL function, %	22.2	1.16	0.73~1.85	0.532
Staff feels resident is capable of improving ADL function, %	29.7	1.01	0.77~1.34	0.916
Number of comorbid conditions, mean±SD*	2.7±1.5	0.95	0.87~1.03	0.195
Bedfast, %	8.3	0.25	0.13~0.48	<0.001
Chairfast, %	29.6	0.53	0.44~0.64	<0.001
Use assistive device, %	85.0	0.70	0.57~0.86	<0.001
Unsteady gait, %	46.9	1.44	1.21~1.72	<0.001
Loss of balance, %	48.6	0.96	0.80~1.16	0.682
Wandering, %	7.5	1.93	1.51~2.46	<0.001
Dizziness/fainting, %	3.4	1.31	0.92~1.89	0.138
Cardiac dysrhythmias, %	10.0	0.93	0.70~1.24	0.622
Recent fall history, %	41.1	1.84	1.54~2.20	<0.001
Recent weight loss, %	19.5	0.91	0.71~1.17	0.484
Malnutrition, %	34.4	0.98	0.79~1.21	0.980
Incontinent, %	59.9	0.98	0.80~1.19	0.869
Visually impaired, %	10.6	0.86	0.68~1.09	0.218
Hearing difficulty, %	26.5	0.99	0.80~1.22	0.892
History of stroke, %	32.1	0.93	0.79~1.11	0.443
Parkinson's disease, %	4.1	2.16	1.50~3.11	<0.001
Arthritis, %	18.8	1.14	0.92~1.41	0.233
Osteoporosis, %	5.7	1.11	0.73~1.69	0.630
Depressed, %	21.8	1.44	1.17~1.77	0.001
PGDRS Orientation Score, mean±SD*	2.5±3.0	1.04	0.93~1.15	0.504
PGDRS Behavior Score, mean±SD*	2.2±3.7	1.21	1.12~1.29	<0.001
Antipsychotic medications, %	11.5	1.83	1.48~2.26	<0.001
Antianxiety medications, %	13.0	1.32	1.01~1.72	0.033
Antidepressant medications, %	13.2	1.44	1.08~1.90	0.012
Alcohol problem, %	10.4	1.03	0.73~1.46	0.875
Bedrails, %	76.2	0.75	0.61~0.92	0.006
Trunk restraint, %	11.9	1.31	1.03~1.67	0.027
Registered nurse turnover, mean±SD*	0.22±0.29	1.03	0.92~1.16	0.597
Number of full-time nursing aides per 100 beds, mean±SD*	78.4±16.5	1.00	0.89~1.12	0.950
For-profit facility, %	70.7	0.79	0.62~1.00	0.057
Chain-affiliated facility, %	49.7	1.06	0.83~1.35	0.657
Facility in urban location, %	83.4	0.79	0.53~1.17	0.236
Number of beds in facility, mean±SD*	178.0±88.1	1.06	0.98~1.15	0.158
Alzheimer's care unit in facility, %	34.4	1.28	1.22~2.04	0.049
Facility environmental quality score, mean±SD*	19.8±4.3	1.18	1.08~1.30	<0.001

*Relative risks per standard deviation are presented.
SD=standard deviation ; ADL=activities of daily living ; PGDRS=Psychogeriatric Dependency Rating Scales.

Methods:A fixed-effects meta-analysis
Results: twenty-seven studies met the inclusion criteria.
Conclusion: the method used to define cognitive impairment and the type of fall outcome are both important when quantifying risk. There is strong evidence global measures of cognition are associated with serious fall-related injury, though there is no consensus on threshold values. Executive function was also associated with increased risk, which supports its inclusion in fall risk assessment especially when global measures are within normal limits.

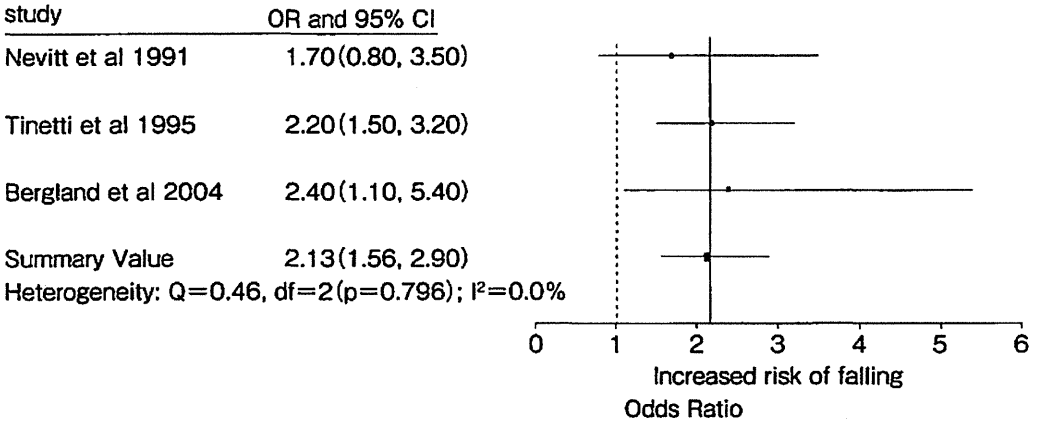

図1 Forest plot for risk of serious fall-related injuries among community-dwelling older adults using the Mini-Mental State Examination (dichotomised at a score <26)(文献2より引用)

表2 転倒外来検査

問診(転倒歴, ADL, 環境要因, 基礎疾患, 服用薬剤)
診察(身長, 体重, 体脂肪率, 血圧, 下腿最大周囲径)
握力
Timed Up&Go テスト
開眼片脚立ち時間
ファンクショナルリーチ
継ぎ足歩行
重心動揺検査
脊椎レントゲン
転倒リスク指標
頭部MRI

このような, 身体機能をみるための検査以外に, われわれは転倒リスク指標(fall risk index)(表3)[4]を調べている. この検査はアンケート形式なので, 多数を対象者とすることができる. 表3の項目の中で転倒の危険が高い側の回答数が多いことと, 過去1年間の転倒率の高さが関連していることがわかった(図2)[4]. また, 地域住民を対象とする前向き調査で表3の21項目の中で, 歩行速度が遅くなった, 杖を使っている, 背中が丸くなった, 5剤以上の服用が特に重要であることが示されている[5].

4 杏林大学病院もの忘れセンターにおける転倒リスク調査

当センター外来に通院中の患者に対して転倒検査を行い, その後1年間転倒歴追跡が可能であった89名(男性30名, 女性59名, 平均年齢が78歳)を対象とし, その後の転倒発生を追跡した.

もの忘れセンター通院患者は認知機能に問題があるため, 家庭内の情報を得るために必ず家族に同伴していただいている. その際, 転倒したことを記録するために転倒記録手帳を渡して, 転倒の日時, 場所, 状況, けがの有無などを記入してもらった.

89名の対象者のうち, 過去1年間の転倒者は46名(52%), 観察期間1年間中の転倒者33名(37%)であった. 過去1年間で転倒した46名のうち観察期間1年中にも転倒した者は22名(48%), 過去1年間で転倒のなかった43名のうち観察期間1年中に転倒した者は11名(26

表3　転倒リスク指標(文献4より引用)

過去1年に転んだことがありますか？	(はい いいえ)	
「はい」の場合，転倒回数(　　回/年)		
1. つまずくことがありますか	(はい いいえ)	身体機能
2. 手すりを使わないと階段昇降ができませんか	(はい いいえ)	
3. 歩く速度が遅くなってきましたか	(はい いいえ)	
4. 横断歩道を青のうちに渡りきれますか	(はい いいえ)	
5. 1 km くらい続けて歩けますか	(はい いいえ)	
6. 片足で5秒くらい立つことができますか	(はい いいえ)	
7. 杖を使ってますか	(はい いいえ)	
8. タオルは固く絞れますか	(はい いいえ)	
9. めまい・ふらつきがありますか	(はい いいえ)	老年症候群
10. 背中が丸くなってきましたか	(はい いいえ)	
11. 膝が痛みますか	(はい いいえ)	
12. 目が見えにくいですか	(はい いいえ)	
13. 耳が聞こえにくいですか	(はい いいえ)	
14. もの忘れが気になりますか	(はい いいえ)	
15. 転ばないかと不安になりますか	(はい いいえ)	
16. 毎日，お薬を5種類以上飲んでいますか	(はい いいえ)	
17. 家の中が暗く感じますか	(はい いいえ)	環境要因
18. 家の中によけて通るものがありますか	(はい いいえ)	
19. 家の中に段差がありますか	(はい いいえ)	
20. 階段を使わなくてはなりませんか	(はい いいえ)	
21. 生活上，急な坂道を歩きますか	(はい いいえ)	

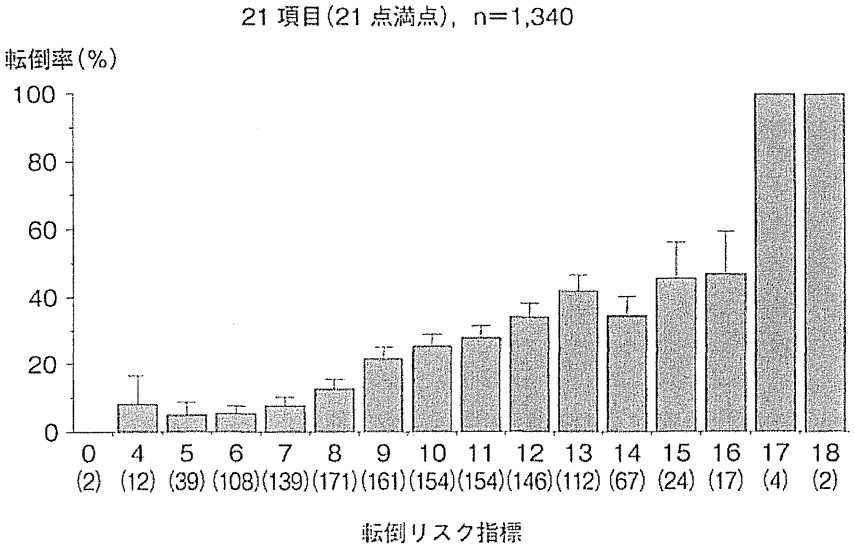

図2　転倒評価表の点数と転倒率(過去1年間)(文献4より引用)

%)であった．これらの結果をχ^2検定すると，過去1年間の転倒者の方がその後1年間の転倒リスクが高いことが明確になった．

フォローアップ期間中に転倒した患者群33名と転倒しなかった患者群56名について，年齢，性別，MMSE，転倒リスク指標，握力，片足立ち持続時間，Up & Go test，継足歩行，Functional Reachの差異について，t検定を行

表4

	全体 n=89	転倒群 n=33	非転倒群 n=56	t検定
年齢	78.1±5.9	78.6±4.9	77.9±6.8	NS
性別	男性 30，女性 59	男性 15，女性 18	男性 15，女性 41	NS
MMSE	22.4±5.4	22.2±6.7	22.6±4.5	NS
転倒リスク指標	9.0±4.1	10.9±4.2	7.9±3.8	$p<0.001$
利き手握力	13.8±6.4	14.0±7.5	13.8±5.7	NS
片足立ち持続時間	9.0±7.9	6.5±7.1	10.4±8.0	$p<0.05$
Up & Go test	15.7±6.4	18.1±7.1	14.3±5.5	$p<0.01$
継足歩行	5.1±4.3	4.5±4.0	5.5±4.5	NS
Functional Reach	23.6±6.9	21.2±8.1	25.0±5.9	$p<0.05$

った結果を示す(表4)．両群の間で年齢，性別，認知機能(MMSE)に差はなかったが，転倒リスク指標，片足立ち持続時間，Up & Go test，Functional Reachに有意差が認められた．また，t検定で有意差が認められた4つの指標に年齢と性別を加えた6つの因子を説明変数としてロジスティック回帰分析を行ったところ，転倒リスク指標のみが転倒発生の有意な説明因子として残った．

5 高齢者における転倒の主な原因疾患

転倒の原因となる主要な疾患として，脳血管障害がある．ラクナ梗塞によって歩行障害や言語障害，失禁が起こることは知られているが，側脳室周囲の虚血性病変もまた様々な老年症候群の発生の素地になる．

われわれが調べている老年症候群の項目について，側脳室周囲の虚血性病変(PVH)と深部白質の虚血性病変(DWMH)を半定量的に評価した．歩行障害，つまずき，転倒については，いずれもPVHスコアないしはDWMHスコアが高い方が機能が悪い結果であった．ラクナ梗塞同様，慢性虚血性変化が老年症候群，特に歩行機能と関連している証拠である．

さらに，側脳室周囲白質病変について前角，体部，後角の3つの部位に分けて解析したところ，後角のPVHが歩行障害，つまずき，転倒と関係が深いことがわかった．深部白質についてははっきりとした結果は得られなかったが，前頭葉の虚血性変化が転倒と関連している結果であった．

6 まとめ

認知症高齢者は転倒しやすい．しかしながら，転倒には複数の要因が関与しているため原因を突き止めることも介入することも難しい．転倒予測にはいろいろな方法があるが，転倒リスク指標は簡便で有用である．また，大脳白質の病変は中核症状としての認知機能の低下以外に，易転倒性，そのほか様々な老年症候群にも関係していることは注目である．

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質疑応答

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(発言順)

羽生　神﨑先生，ありがとうございました．

ぜひご質問などがございましたら，いかがでしょうか．

福生　一般のもの忘れ外来では，骨量の定量はどのくらいの頻度で行えばよいのですか．

神﨑　骨量の測定は臨床的に非常に重要だと思いますが，もの忘れ外来通院患者に対してわれわれはそれをルーチンに行ってはいません．

骨折しやすいのだから，本来測るべきだろうと思います．ただ，現実的にある程度進んだ認知症の方では検査を行うことが難しくなってきますから，MCIレベルまたは比較的軽い認知症患者であれば，調べることができますし，それに対して薬剤を投与することは，現実的に考えていかないといけないと思います．

福生　ムスカリン様作用のレセプターを刺激することで，骨にとっては骨吸収・骨破壊を抑制し，ニコチン様作用のレセプターを刺激するものは骨吸収・骨破壊を亢進するという報告もあります．抗認知症薬によって，骨量に変化がくるというデータはあるのですか．

神﨑　ドネペジル塩酸塩をはじめとするアセチルコリンエステラーゼ阻害薬の骨量に対する影響ははっきりしていないと思います．骨折予防のエビデンスも統一的な見解はまだないようです．

作用機序の話については聞いたことはありますが，臨床的な効果を示したデータはないように思います．

羽生　神経機能，身体的な機能も関係します．認知機能検査で注意・集中力が低下している方の転倒リスクが高かったのですが，そういう場合にアセチルコリンエステラーゼ阻害薬を用いると，明らかに注意・集中力の改善に伴い，転倒の回数も減ってくるようですが，いかがですか．

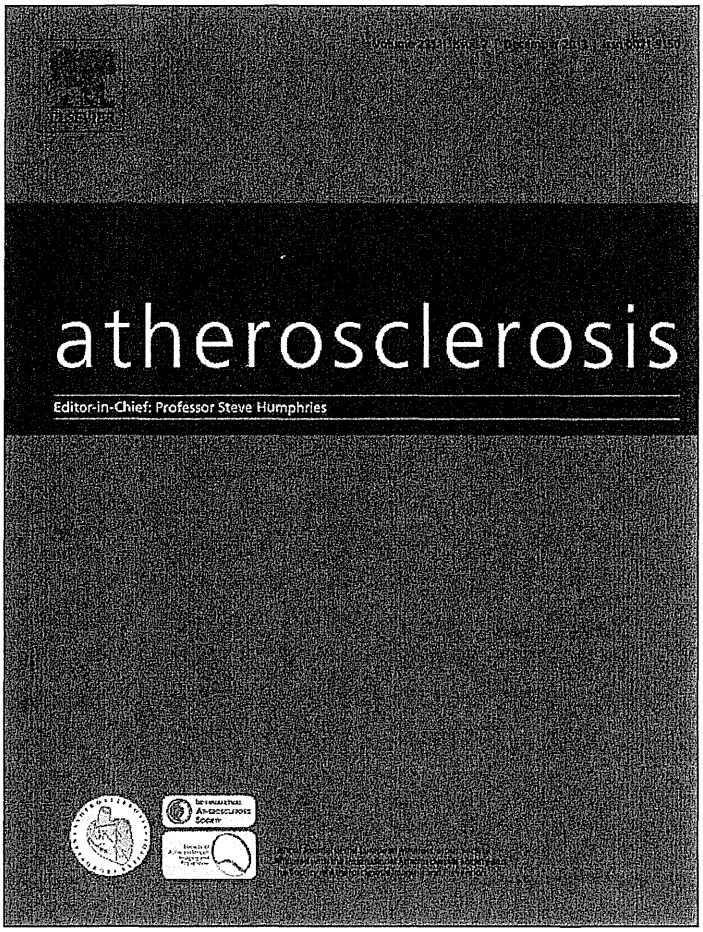
神﨑　われわれもきちんと評価していませんが，羽生先生がおっしゃるようにアセチルコリンエステラーゼ阻害薬が転倒を予防できるのではないかと期待しています．

羽生　ほかにいかがですか．

石井　パーキンソン病とレビー小体型認知症では姿勢反射の障害に関するメカニズムは基本的に共通していると思うのですが，レビー小体型認知症で目を開けるとむしろバランスが悪くなるというのは，視覚の情報を上手くバランスの保持に利用できず，むしろ撹乱するというメカニズムを推測しているのですが，いかがですか．

神﨑　われわれもそのように考えています．それが何とか証明できないかということで，研究を進めています．

羽生　それでは時間になりましたので，神﨑先生，どうもありがとうございました．



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Efficacy of combined use of three non-invasive atherosclerosis tests to predict vascular events in the elderly; carotid intima-media thickness, flow-mediated dilation of brachial artery and pulse wave velocity

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ABSTRACT

Background: Intima-media thickness (IMT) of the carotid artery, flow-mediated dilation (FMD) of the brachial artery, and pulse wave velocity of the central artery (PWV) have been widely used to evaluate progression of atherosclerosis. Our previous work has revealed that IMT, FMD and PWV are related to each other, and the combination of these measurements was useful in identifying patients with atherosclerotic disease. The aim of the present study was to investigate whether combination of these measurements would predict future cardiovascular events better than each test alone.

Methods and results: From November 2000 to March 2008, 274 consecutive elderly subjects (men/women; 114/160, mean age; 71 ± 12 years) were enrolled in this study. We measured IMT, FMD, and PWV in all of these subjects and followed them for a mean of 41 ± 28 months. During the follow-up period, vascular events occurred in 42 patients (15.3%). IMT (hazard ratio = 1.28 [95%CI, 1.09–1.50], $p = 0.002$ per 0.1 mm increase in mean IMT) and brachial-ankle (ba) PWV (hazard ratio = 1.06 [95%CI, 1.01–1.10], $p = 0.015$ per 1 m/s increase in baPWV) were independent predictors of future vascular events by Cox proportional hazard analysis, although FMD did not reach statistical significance (hazard ratio = 0.85 [95%CI, 0.72–1.01], $p = 0.062$ per 1% increase in %FMD). Importantly, the number of tests showing results in the worst tertile was a more powerful predictor (hazard ratio = 2.21 [95%CI, 1.42–3.43], $p = 0.0004$ for number of tests showing worst tertile) of future vascular events than either IMT, baPWV, or FMD alone. When both IMT and baPWV (with respective cut-off values of 0.98 mm and 19.1 m/s) were taken into consideration, the efficacy increased as compared with each test alone (odds ratio 4.9).

Conclusion: These results indicate that IMT and baPWV, especially when combined, are useful in predicting future vascular events in elderly subjects.

1. Introduction

Recently, noninvasive tests of atherosclerosis have been clinically available, such as common carotid intima-media thickness (IMT), flow-mediated dilation (FMD) of the brachial artery, pulse wave velocity (PWV), beta stiffness index, and systemic arterial stiffness [1]. Several epidemiologic studies have shown that IMT, PWV, and FMD are important, independent determinants of cardiovascular risk in patients with cardiovascular disease [2–5], or diabetes mellitus [6,7] and healthy adults [1,8–12]. These three tests assess different aspects of atherosclerosis; carotid IMT reflects structural changes in the artery wall [13], PWV reflects central arterial stiffness, and FMD reflects endothelial function. While the majority of previous studies utilized a single method to evaluate atherosclerosis, several recent studies showed that combination of two measurements may strengthen the predictive power for future cardiovascular events [14,15].

Consistent with these studies, our previous article showed that a combination of IMT, FMD and PWV was able to predict more reliably the prevalence of atherosclerotic disease in an elderly population than did each test alone [16]. However, it is not clear whether the combination of these three tests is more reliable in predicting future vascular events than is each single test. Thus, the purpose of the present study was to prove the hypothesis that the combination

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of the three different methods to evaluate atherosclerosis would strengthen the predictive power over each test alone. For this purpose, we followed vascular events in patients in whom IMT, FMD and PWV were measured in advance.

2. Methods

2.1. Subject background

From November 2000 to March 2008, 274 consecutive subjects from outpatients of the Department of Geriatric Medicine, Kyorin University Hospital (Tokyo, Japan) were enrolled in this study (Table 1). Three non-invasive atherosclerosis tests (IMT, FMD and PWV) were performed in these subjects for the study purpose. All participants gave written informed consent to the study, which was approved by our institutional ethics committee. The study was performed in compliance with the Helsinki declaration. We included all subjects who agreed to participate in the study, and in whom IMT, FMD and PWV were available.

Diabetes mellitus was defined as fasting glucose of 126 mg/dL or higher, or the use of hypoglycemic medication. Resting blood pressure was measured three times in the seated position, and the average of the second and third readings was recorded. Hypertension was defined as systolic blood pressure >140 mmHg, diastolic blood pressure >90 mmHg, or use of medication prescribed for hypertension. Body mass index was calculated as weight (kg)/height^2 (m^2). Total and high-density lipoprotein (HDL) cholesterol were measured in blood samples obtained after a 12-h fast. Low-density lipoprotein (LDL) cholesterol was estimated by the Friedewald equation. Framingham risk score was determined from age, sex, smoking, blood pressures, diabetes, total cholesterol and HDL cholesterol based on the report by Wilson et al. [11].

Table 1
Clinical characteristics of study subjects.

	Vascular event		
	With (n = 42)	Without (n = 232)	p
Sex (male/female)	24/18	90/142	0.026
Age, y/o	74 ± 12	71 ± 12	0.087
Body mass index (kg/m^2)	23 ± 4	23 ± 3	0.208
Number of risk factors	1.8 ± 1.1	1.6 ± 1.0	0.281
Hypertension, n (%)	31 (74)	126 (54)	0.019
Hyperlipidemia, n (%)	14 (33)	115 (50)	0.052
Diabetes mellitus, n (%)	12 (29)	57 (25)	0.582
Chronic pulmonary disease, n (%)	0 (0)	2 (0.9)	0.546
Kidney disease, n (%)	1 (2.4)	8 (3.4)	0.721
Chronic systemic inflammatory disease, n (%)	0 (0)	2 (0.9)	0.546
Smokers, n (%)			
Never	22 (52)	139 (60)	0.364
Past	17 (41)	69 (30)	–
Current	3 (7)	24 (10)	–
History of stroke, n (%)			
Cerebral infarction	7 (17)	14 (6)	0.295
Brain hemorrhage	0 (0)	3 (1)	–
Cerebral thrombosis	1 (2)	1 (0)	–
Cerebral infarction & hemorrhage	0 (0)	2 (9)	–
Multiple cerebral infarction	0 (0)	7 (3)	–
Transient ischemic attack	1 (2)	0 (0)	–
Unknown	2 (5)	6 (3)	–
History of IHD, n (%)			
Angina pectoris	3 (7)	7 (3)	0.560
Myocardial infarction	0 (0)	4 (2)	–
Unknown	0 (0)	3 (1)	–
Atherosclerosis measurements			
Mean IMT, mm	1.06 ± 0.21	0.94 ± 0.19	0.000
FMD, %	2.01 ± 1.71	2.83 ± 2.42	0.045
baPWV, m/s	22.5 ± 6.6	19.7 ± 6.5	0.018
Medication			
ACEI/ARB, n (%)	13 (33)	54 (24)	0.210
Ca blocker, n (%)	14 (35)	58 (16)	0.185
β-Blocker, n (%)	3 (8)	10 (4)	0.383
Statin, n (%)	5 (12)	38 (17)	0.426
Anti-platelet agent, n (%)	15 (38)	42 (19)	0.009

Data are expressed as mean ± SD. FMD, flow-mediated dilation of right brachial artery; IMT, intima-media thickness of common carotid artery; baPWV, brachial-ankle pulse wave velocity, IHD, ischemic heart disease; ACEI, angiotensin converting enzyme inhibitor; ARB, angiotensin II receptor blocker; Smoker Never, no smoking history; Smoker Past, previously smoked and quit; Smoker Current, currently regularly smoking.
Student's t test for continuous variables and χ^2 test for categorical variables.

2.2. Participant follow-up and CV events

The occurrence of vascular events was investigated by inquiry to the attending doctor (n = 234), examining the patient's clinical record (n = 9), or inquiry to the patient and/or the family by either telephone (n = 13) or mail (n = 18). The majority of cardiovascular events (n = 243/274) was confirmed as follows: angina and myocardial infarction were confirmed by clinical symptoms and/or coronary arteriography; cerebral hemorrhage, subarachnoid hemorrhage, cerebral infarction and transient ischemic attack were confirmed by clinical symptoms followed by computed tomography, MRI and/or angiography; heart failure, renal failure and arteriosclerosis obliterans were diagnosed according to the clinical guidelines; and aortic dissection was confirmed by contrast computed tomography.

2.3. Measurements of atherosclerosis

Measurements of atherosclerosis were performed as previously described [16]. All examinations were performed by the same skilled technician throughout the study. The subject reclined on the examination table for at least 15 min before the examination to obtain hemodynamic stability.

2.3.1. Measurement of carotid IMT

Common carotid IMT was measured by ultrasound (PowerVision6000, Toshiba) with a 7.5 MHz linear-array transducer. The images were recorded on S-VHS videotape. IMT at the far wall of the common carotid artery was measured by B-mode scan within 10 mm proximal to the bifurcation. Four points were measured in one scan, and mean IMT was calculated [2,16]. The typical error as a coefficient of intra-observer variation in the measurement of IMT was 3.7%, and changes in mean were 2.0%.

2.3.2. Measurement of FMD of brachial artery

The diameter of the artery was measured by ultrasound (PowerVision6000, Toshiba) with a 7.5 MHz linear-array transducer. The images were recorded on S-VHS videotape. The mean diameter of the brachial artery was calculated from four cardiac cycles synchronized with the R-wave peaks on ECG. After a 10 min rest in the supine position, the right brachial artery was scanned. After recording the resting diameter, a cuff was placed around the forearm distal to the target artery and inflated to a pressure of 250 mmHg. Inflation was maintained for 5 min. Maximal vasodilation was observed 45–60 s after cuff release. The change in diameter caused by the restoration of blood flow was expressed as the percent change relative to the initial diameter [16–18]. The typical error as a coefficient of intra-observer variation in the measurement of FMD was 7.4%, and changes in mean were 0.1%.

2.3.3. Measurement of PWV

Brachial-ankle (ba) PWV was measured using an automated device (Form PWV/ABI, OMRON-COLIN, Japan). The average measurement of left and right baPWV was used for analysis. The typical error as a coefficient of intra-observer variation in the measurement of PWV was 2.0%, and changes in mean were 0.2%.

2.4. Statistical analysis

All data are expressed as mean ± SD. Patients were classified according to the tertiles of IMT, %FMD and baPWV. Event rate was calculated using the Kaplan–Meier method, and the statistical significance of differences was investigated by log-rank test. A Cox proportional hazard model was used to determine the variables independently associated with vascular events. Odds ratio was calculated by logistic regression analysis to evaluate the association of event occurrence and each atherosclerosis measurement, with adjusted for age and sex as well as FRS. Receiver operating characteristic curve analysis was performed to estimate the best cut-off point in each test for predicting future vascular events. A p value <0.05 was considered statistically significant.

3. Results

3.1. Subjects

In the 274 patients, the mean duration of follow-up was 41 ± 28 months. During this time, 42 (15.3%) patients experienced vascular events: 14 (33.3%) had angina, 13 (31.0%) stroke, 10 (23.8%) heart failure, 6 (14.3%) renal failure, 3 (7.1%) myocardial infarction, 3 (7.1%) transient ischemic attack, 2 (4.8%) arteriosclerosis obliterans, 2 (4.8%) cerebral hemorrhage, 1 (2.4%) aortic dissection, and 1 (2.4%) subarachnoid hemorrhage.

As shown in Table 1, male sex and hypertension were more frequent in patients with vascular events than in those without events. In addition, patients with vascular events showed thicker mean IMT, smaller %FMD, and greater baPWV than those without events.

3.2. Tertiles and prognostic value of each test

With regard to IMT and baPWV, Kaplan–Meier analysis showed that patients in the worst tertile experienced a higher rate of vascular events than those in the other two tertiles (Fig. 1a, b). A similar trend was also found for %FMD, although not reaching statistical significance ($p = 0.052$ by log-rank test, Fig. 1c). Of note, patients in the three worst tertiles had a markedly higher rate of vascular events than those in the other groups (0, 1, and 2 in Fig. 1d).

In the Cox proportional hazard model, IMT, baPWV, and the number of results in the worst tertiles were significantly associated with vascular events. They remained significant after adjusting for age and sex (Table 2), and FRS (Table 3). FRS alone was not a significant predictive factor ($p = 0.203$, RR 0.987, 95%CI 0.966–1.007).

3.3. Test combination model and vascular events

Receiver operating characteristic curve analysis demonstrated that IMT of 0.98 mm (area under curve = 0.72, sensitivity = 83%, specificity = 57%) and baPWV of 19.1 m/s (area under curve = 0.67, sensitivity = 61%, specificity = 63%) were the best cut-off points for predicting future vascular events.

When the subjects were subdivided into four groups according to the cut-off values of IMT and baPWV, Kaplan–Meier curves showed a stepwise increase in the risk of vascular events (Fig. 2a). Patients with both IMT and baPWV above the cut-off values (group IV) showed the highest rate of vascular events. In addition, the odds ratio of vascular events in group IV was significantly higher than that in group I (Fig. 2b).

4. Discussion

Consistent with the hypothesis, the combination of the three atherosclerosis measurements (IMT, %FMD, and baPWV) was

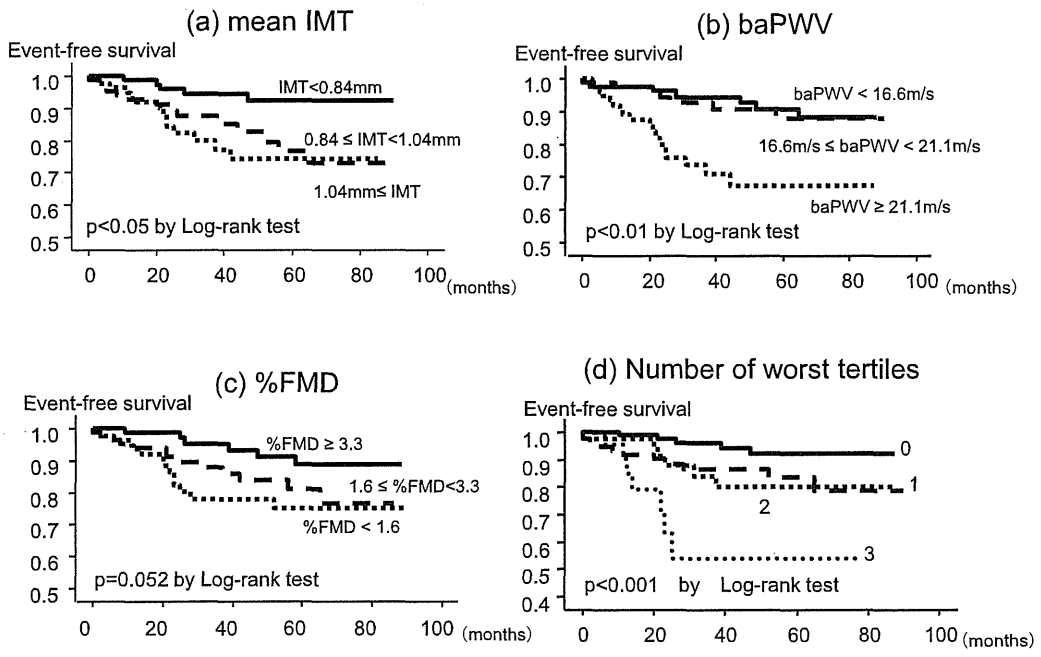

Fig. 1. Kaplan–Meier curves according to tertiles of (a) IMT, (b) baPWV, (c) %FMD, and (d) number of worst tertiles in atherosclerosis tests.

Table 2
Predictive value for future vascular events by Cox proportional hazard analysis adjusted by age and sex.

Variable	Unadjusted (n = 274)		Adjusted for age and sex (n = 274)	
	HR (95%CI)	p	HR (95%CI)	p
IMT, tertile (increase of 1)	1.836 (1.187–2.840)	0.0064	1.606 (1.002–2.753)	0.0489
IMT, 0.1 mm	1.279 (1.093–1.497)	0.0022	1.226 (1.034–1.454)	0.0191
baPWV, tertile (increase of 1)	2.191 (1.365–3.516)	0.0012	1.969 (1.115–3.476)	0.0195
baPWV, 1.0 m/s	1.055 (1.010–1.101)	0.0152	1.027 (0.970–1.088)	0.3552
FMD, tertile (increase of 1)	1.691 (1.090–2.624)	0.0190	1.631 (0.925–2.342)	0.1029
FMD, 1%	0.849 (0.716–1.008)	0.0615	0.903 (0.756–1.079)	0.2608
Number of worst tertiles	1.930 (1.353–2.754)	0.0003	1.891 (1.229–2.912)	0.0038

HR, hazard ratio; CI, confidence interval; other abbreviations are as in Table 1.

shown to be more powerful in predicting future vascular events as compared with each single test. This finding is consistent with our previous study showing that the combination of these three tests more reliably reflected the prevalence of atherosclerotic disease in the elderly population than did each test alone [16]. Here, IMT, baPWV, and %FMD (although less sensitively) were shown to predict future vascular events in the elderly population. This is in agreement with previous longitudinal studies showing that IMT was a predictor of future vascular disease [2,19], including a study of an elderly population [8], as well as central PWV in a study of subjects over 70 years old [4,11].

With regard to FMD, the present study did not show a significant association with the occurrence of vascular events. Considering the low value and small difference in FMD in the two groups with and without vascular events, one possible explanation for the non-significance is the floor effect. In support of this result, a significant relationship was found between baseline FMD and future cardiovascular events in middle-aged adults [9,10], whereas the prognostic power declined linearly with advancing age from the mid-40s, reaching nearly zero around 70 years of age [20]. Considering the subjects' age in the present study, the non-significance of FMD could be attributable to the advanced age of the patients.

An important point of the present study is that while IMT, baPWV, and %FMD were useful to predict future vascular events, combination of these tests increased the predictive power (Fig. 1d). This finding was consistent with those of our previous cross-sectional study showing that the result of a combination of the three tests was more strongly related to the prevalence of vascular disease in the elderly population than was that of each single test [16]. Several longitudinal studies have shown efficacy of the combination of two different atherosclerosis tests, such as FMD and ankle-brachial pressure index [14], plaque score of the common carotid artery and FMD [15], or carotid IMT and FMD [21], in predicting vascular events. The present study showed strong predictive power of combining three atherosclerosis tests for future vascular events. From our results, it is recommended that three tests should be combined in clinical work to evaluate vascular risk. However, when cost-effectiveness is taken into account, the combination of two tests (IMT and baPWV) would be sufficiently practical for event prediction in the elderly population because FMD requires much more skill and time than does IMT or baPWV. The same idea has been introduced in the recent guidelines from the ACCF/AHA for the assessment of cardiovascular risk in asymptomatic adults [22].

Table 3
Predictive value for future vascular events by Cox proportional hazard analysis adjusted by Framingham Risk Score (FRS).

Variable	Unadjusted (n = 215)		Adjusted for FRS (n = 215)	
	HR (95%CI)	p	HR (95%CI)	p
IMT, tertile (increase of 1)	1.704 (1.044–2.782)	0.0329	1.669 (1.018–2.735)	0.0422
IMT, 0.1 mm	1.277 (1.069–1.526)	0.0071	1.281 (1.064–1.544)	0.0090
baPWV, tertile (increase of 1)	2.675 (1.522–4.700)	0.0006	2.582 (1.445–4.614)	0.0014
baPWV, 1.0 m/s	1.065 (1.018–1.115)	0.0060	1.060 (1.011–1.111)	0.0166
FMD, tertile (increase of 1)	1.785 (1.072–2.973)	0.0260	1.669 (0.989–2.815)	0.0548
FMD, 1%	0.864 (0.716–1.043)	0.1281	0.888 (0.730–1.080)	0.2339
Number of worst tertiles	2.031 (1.350–3.055)	0.0007	1.991 (1.309–3.027)	0.0013

HR, hazard ratio; CI, confidence interval; other abbreviations are as in Table 1.

Increased carotid IMT has been considered as a marker of subclinical atherosclerosis. Although the biological meaning of IMT remains to be debated, it seems more likely to represent target organ damage related to cardiovascular risk [13]. PWV is the mostly widely used index for evaluating central arterial stiffness. FMD is a tool that is proposed for the assessment of endothelial function and is related to cardiovascular risk, but is not yet a commonly applied method to assess CV risk. Our major finding that the combination of three tests was more predictive than each test alone may be attributable to the fact that each test reflects a different aspect of the progression of atherosclerosis.

The best cutoff value of IMT calculated from event prediction was 0.98 mm in the present study. This value was comparable to previously reported values; approximately ~1.00 mm in healthy adults in spite of populations of different ages; middle age [23–25], over 55 yearsold [26], and 60–74 years old [27]. Although the detailed methodologies were slightly different between studies, ~1.00 mm appears to be relevant to the occurrence of vascular events.

The cutoff value of baPWV calculated from the receiver operating characteristic curve was 19.1 m/s in the present study. This value is slightly higher as compared with values reported previously; that for major cardiovascular events in patients with acute coronary syndrome was 18.0 m/s [28], and that for re-hospitalization and cardiac death in patients with heart failure was 17.5 m/s [29]. On the other hand, the cut-off value for cardiovascular death in community-dwelling elderly people (LILAC study [30]) was higher (25 m/s) than that in the present study. This difference could be explained by the susceptibility to arteriosclerosis in different subjects depending on whether they have preexisting cardiovascular disease and how old they are.

Because of the efficacy of the cut-off values of baPWV and IMT, we investigated the significance of the combination of these two measurements. A stepwise increase in the risk of vascular events was evident by Kaplan–Meier analysis and calculated odds ratio. This is important because much higher predictability can be obtained by simple non-invasive tests. Although FMD did not reach statistical significance, the combination of even three tests would strengthen the predictive power. Indeed, our previous results showed higher prevalence of atherosclerotic disease by combining three tests. Considering the efficacy and simplicity of performance of the three tests, combination of baPWV and IMT (with cut-off values of 19.1 m/s and 0.98 mm, respectively) should be of value for prediction of future occurrence of vascular events in elderly patients.

5. Limitations

One of the limitations of this study was that our approach of three tests for atherosclerosis did not follow the most updated

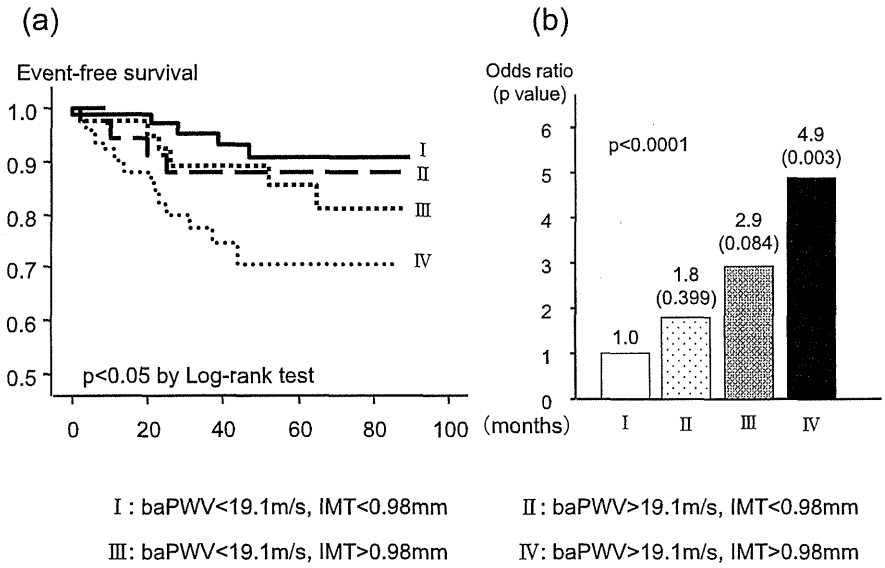

Fig. 2. (a) Kaplan–Meier curves and (b) adjusted relative risks of future vascular events according to cut-off values of baPWV and IMT. Odds ratio and *p* value, in parentheses, are indicated over the bar.

methodologies, because they were not fully established when we started this study. The most recent approaches may provide better predictive values for PWV and IMT, and statistical significance for FMD. Particularly, we manually held the echo probe for FMD measurement, which may have led to low intra-observer reproducibility and no statistical significance.

Second, despite the number of controls, the number of patients was very small.

Third, we included renal failure and heart failure as vascular events since these diseases are thought to be associated with progression of atherosclerosis in the elderly. However, it is possible that heart failure and renal failure may be caused by other etiologies such as collagen disease, infection, valvular disease, etc. Therefore, we also analyzed predictive values excluding heart failure and renal failure as vascular events, and obtained similar results. Thus, the effect of bias in selecting vascular events is considered to be small.

6. Conclusion

IMT, baPWV and, less significantly, FMD, especially when combined, are useful to predict future vascular events in elderly subjects. Because elderly people are at high risk for vascular disease, performing these simple and reliable non-invasive tests will add important clinical information.

Acknowledgments

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認知症医療の将来展望

わが国では人口の高齢化とともに認知症の人が増えつつあり，たとえば，介護保険の要介護認定における「認知症高齢者の日常生活自立度」II以上の高齢者は2012（平成24）年で305万人程度と推計されている[1]．認知症の人は記憶障害が進行するとともに環境適応能力が低下し，不安感や焦燥感から行動・心理症状（behavioral and psychological symptoms of dementia，以下，BPSD）をきたしやすいといった特性を持つことから，住み慣れた地域で，なじみのある安定的な人間関係の中で過ごすことが望ましいとされている．そのためにはその地域において医療・介護サービスを始め，さまざまなサービスが，本人・家族のニーズや状態の変化に応じて，切れ目なく提供される必要がある．

本項では，認知症に関する施策のこれまでの流れと医療が果たす役割，今後の展望について概説する．

認知症施策の流れと認知症医療

1987（昭和62）年8月に厚生省（現厚生労働省）「痴呆性老人対策推進本部」が取りまとめた報告[2]において，妄想，幻覚，徘徊，不潔行為といった症状や行動に対して精神科医療の役割が求められ，回廊式廊下やリハビリテーション機器などを備えた「痴呆性老人専門治療病棟」の整備や介護家族の支援や退院の円滑化のためのデイ・ケア施設の併設が提言された．1989年（平成元年）には専門医療機関としての「老人性痴呆疾患センター」の指定が開始された．

1991（平成3）年に日本で最初の認知症高齢者を対象としたグループホームが誕生し，調査研究の結果をふまえて，1997（平成9）年以降，国はグループホームの運営や整備に対して補助を行うようになった．1999（平成11）年に策定されたゴールドプラン21において，2004（平成16）年度にはグループホームを全国で3,200か所整備することが目標として掲げられた．2000（平成12）年に「介護の社会化」をキーワードとしてスタートした介護保険制度においても，グループホームはサービスの一つとして位置づけられた．

2003（平成15）年に厚生労働省老健局長の私的研究会である高齢者介護研究会がまとめた「2015年の高齢者介護」[3]においては「高齢者の尊厳を支えるケア」の実現を基本とし，認知症高齢者ケアの確立の必要性が示され，「小規模・多機能サービス拠点」「施設機能の地域展開」「ユニットケアの普及」「国民運動としての広報啓発キャンペーンの実施」等さまざまな施策が提言された．

2004（平成16）年には「痴呆」という用語が「認知症」に改められ，これを受けた「認知症を知り地域をつくる10か年」の構想の展開や認知症サポーター100万人キャラバンなどにより，国民の認知症についての理解は進んできた．

2006（平成18）年度に行われた介護保険制度改革は「高齢者の尊厳を支えるケアの確立」を基本理念とし，認知症高齢者の増加を背景と

して身体ケアのみではなく認知症ケアも視野に入れた地域密着型サービス（認知症対応型共同生活介護，認知症対応型通所介護，小規模多機能型居宅介護等）の創設，独居高齢者の増加などを背景とし，地域ケア体制を整備するための地域包括支援センターの創設などが行われた．

2005（平成17）年度から認知症サポート医養成研修，2006（平成18）年度からかかりつけ医認知症対応力向上研修が開始となり，かかりつけ医を中心とした地域連携体制構築の試みが開始された．さらに，2008（平成20）年度から地域の専門医療機関としての認知症疾患医療センターの指定が始まった．

2008（平成20）年に厚生労働省内において「認知症の医療と生活の質を高める緊急プロジェクト」[4]が開催され，「医療と介護の連携」をキーワードとして，(1)実態の把握，(2)研究開発の加速，(3)早期診断の推進と適切な医療の提供，(4)適切なケアの普及および本人・家族支援，(5)若年性認知症対策に関する施策が提言された．

2011（平成23）年11月の「新たな地域精神保健医療体制の構築に向けた検討チーム（第2R：認知症と精神科医療）」とりまとめ[5]においては「入院を前提とせず，地域生活を支える」認知症医療の方針が打ち出され，訪問診療や訪問看護の充実や多職種チームによる訪問支援（アウトリーチ）の推進，早期から専門医療機関による正確な診断を受けられる体制の整備，BPSDや身体合併症により入院が必要な場合であってもすみやかに症状を軽減し退院を促進する体制の整備，などが提言された．

2012（平成24）年4月1日から施行（一部は公布日）された「介護サービスの基盤強化のための介護保険法等の一部を改正する法律」においては，高齢者が住み慣れた地域で安心して暮らし続けることができるようにするため，医療，介護，予防，住まい，生活支援サービスが切れ目なく提供される「地域包括ケアシステム」の構築が重視されており，市町村はこの基本理念を基盤として，日常生活圏域ごとに地域ニーズや課題の把握をふまえた介護保険事業計画を作成することが求められている．独居・重度の要介護者や医療ニーズの高い要介護者などにも対応できるよう24時間対応の定期巡回・随時対応型訪問介護看護や小規模多機能型居宅介護と訪問看護等を組み合わせた複合型サービスが創設された．そのほか，医療ニーズの増大に対しては，介護福祉士（2015〈平成27〉年4月1日以降）や一定の教育を受けた介護職員等によるたんの吸引や経管栄養が可能となるなどの施策が打ち出された．環境の変化に弱く，住み慣れた地域での生活の継続が望ましい認知症の人にとって，「地域包括ケアシステム」の構築は大きな意義を持つ．この改正では，市町村介護保険事業計画に，認知症の人の地域における自立した日常生活の支援に関する事項を記載すること，および市町村は，市民後見人の育成および活用などを通じて高齢者の権利擁護を推進することが求められている．

2012（平成24）年6月厚生労働省認知症施策検討プロジェクトチームは「今後の認知症施策の方向性について」という報告書[6]をまとめた．その基本方針は「認知症になっても本人の意思が尊重され，できる限り住み慣れた地域の良い環境で暮らし続けることができる社会」の実現を目指すとしており，(1)標準的な認知症ケアパスの作成・普及，(2)早期診断・早期対応，(3)地域での生活を支える医療サービスの構築，(4)地域での生活を支える介護サービスの構築，(5)地域での日常生活・家族の支援の強化，(6)若年性認知症施策の強化，(7)医療・介護サービスを担う人材の育成の7つの視点から具体的な取組みについて記述されている．さ

らに，2012（平成24）年9月には「認知症施策推進5か年計画（オレンジプラン）」[7]が公表され，2013（平成25）年度から2017（平成29）年度までの具体的な認知症施策の数値目標が示された．

認知症疾患医療センター

1989年（平成元年）から地域の認知症専門医療機関として指定されていた「老人性痴呆疾患センター」は，活動状況の格差が大きく，周知が不十分であったこともあり，2006（平成18）年度で予算事業としては廃止となった．その教訓をふまえて，一般病床と精神病床の両方を持つ病院の指定を念頭に，認知症疾患医療センターが2008（平成20）年度から新たに創設された．認知症疾患医療センターには，(1)鑑別診断とそれに基づく初期対応，身体合併症・BPSDへの急性期対応といった専門医療の提供，(2)専門医療相談などの情報センターとしての機能，(3)地域包括支援センター等との連携機能が求められている．2009（平成21）年度から，「認知症の医療と生活の質を高める緊急プロジェクト」の提言をふまえて，(4)連携担当者を配置することにより地域包括支援センターとの連携機能を強化し，地域における医療と介護の連携の拠点としての機能，が加えられた．2010（平成22）年度から，認知症疾患医療センターは一般病床と精神病床の両者を有し，休日・夜間を含め救急対応が可能な基幹型と，他の医療機関との連携等により指定を受ける地域型の2類型に分けられることとなった（**図1**）．2013（平成25）年2月1日現在，全国で189か所の認知症疾患医療センターが指定されており，そのうち基幹型は8か所，地域型は181か所である[8]．

「今後の認知症施策の方向性について」において，現在の基幹型・地域型認知症疾患医療センターのみでは増加しつつある認知症の人に対応することが困難である（受診までに数か月を要する）との観点から，新たに的確な診断やかかりつけ医や地域包括支援センター等との連携・支援を担う「身近型認知症疾患医療センター」を全国に300か所程度整備するとしている．「身近型認知症疾患医療センター」は，より身近に，かかりつけ医と連携して，その支援を担う地域の認知症医療の拠点となり，一般病院や介護保険施設・事業所を訪問し，BPSDの治療を行い，ケアマネジャーやかかりつけ医等に対する専門的なアドバイスを行う役割を果たすとされている．「オレンジプラン」においては2017（平成29）年度までに，早期診断を担う医療機関を，現行の認知症疾患医療センター（基幹型・地域型）を含めて，二次医療圏に1か所以上，全国に約500か所整備するとしている．

早期診断の重要性とそのための施策

「痴呆性老人対策推進本部」報告から「今後の認知症施策の方向性について」報告書に至るまで，早期診断の重要性が述べられている．しかし，早期診断が必要な理由は徐々に変化してきている．

「痴呆性老人対策推進本部」報告においては，認知症をきたすものとして，Alzheimer型認知症や血管性認知症のほかに，外傷や腫瘍，感染，中毒，代謝障害などがあり，根本的な治療が可能なものがあることから，早期における適切な鑑別診断が重要と述べられている．

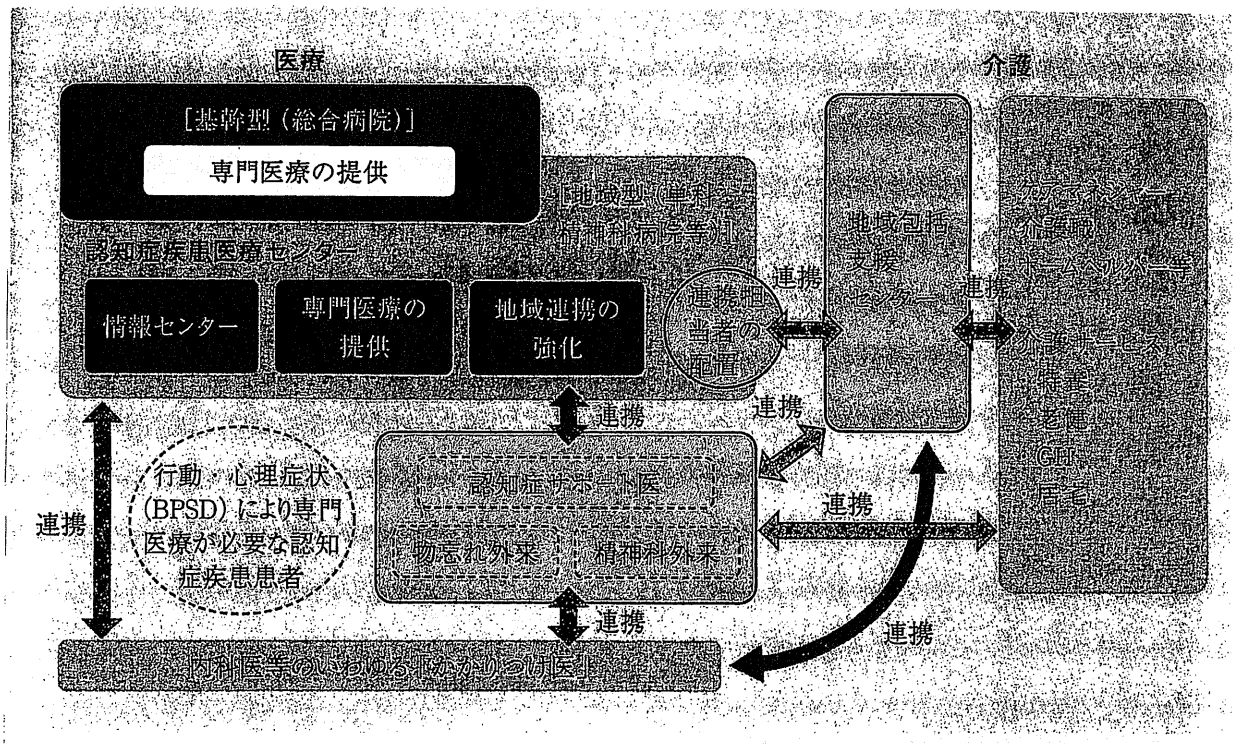

図1　認知症疾患医療センターの機能と連携

2008（平成20）年度から，認知症専門医療機関として認知症疾患医療センターの指定が始まり，2010（平成22）年度から基幹型と地域型の2類型に分けられることとなった．認知症疾患医療センターには専門医療の提供のほか，情報センター機能，地域連携機能の役割も求められている．

GH（グループホーム），BPSD（behavioral and psychological symptoms of dementia）．

（平成23年度老人保健健康増進等事業「認知症サポート医の活動支援のあり方と養成および継続研修事業に関する調査研究」委員会，認知症サポート医養成研修テキスト，2012より）

「2015年の高齢者介護」は，認知症を早期に発見し，適切な診断とサービスの利用により，BPSDの緩和が可能な場合が多いとし，早期発見の意義として，(1) 治療可能な認知症の原因を見いだし，治療をすること，(2) 自己決定権を尊重できること，(3) 本人と介護者の生活の質を維持できることをあげている．また，認知症の診断とその原因特定を行うことは適切なケアを行うためのケアプランを作成するうえで欠かせない情報であり，医療の大きな役割であると述べている．

「認知症の医療と生活の質を高める緊急プロジェクト」報告書では，認知症の医学的診断をできるだけ早期に行い，その診断に基づいて医療および介護サービスの総合的な対策を早期から講じることを基本方針としている．

「新たな地域精神保健医療体制の構築に向けた検討チーム（第2R：認知症と精神科医療）」とりまとめにおいては，BPSDが生じてから精神科を受診するのではなく，認知症の早期から，専門医療機関を受診して，正確な診断・治療を行うことができる体制整備が必要であるとしている．また，早期の正確な診断により判明した原因疾患や，認知症の経過や状態に応じた診断を適宜行うことなどにより，予測される症状や経過をふまえて，BPSDの発生予防やBPSDへの対応にも役立つような適時適切な生活のアドバイスを与えることが必要であると述べている．

「今後の認知症施策の方向性について」においては，早期診断を促進するために「身近型認知症疾患医療センター」の整備を提言するとともに，早期の診断に基づき適切なケアに結びつ

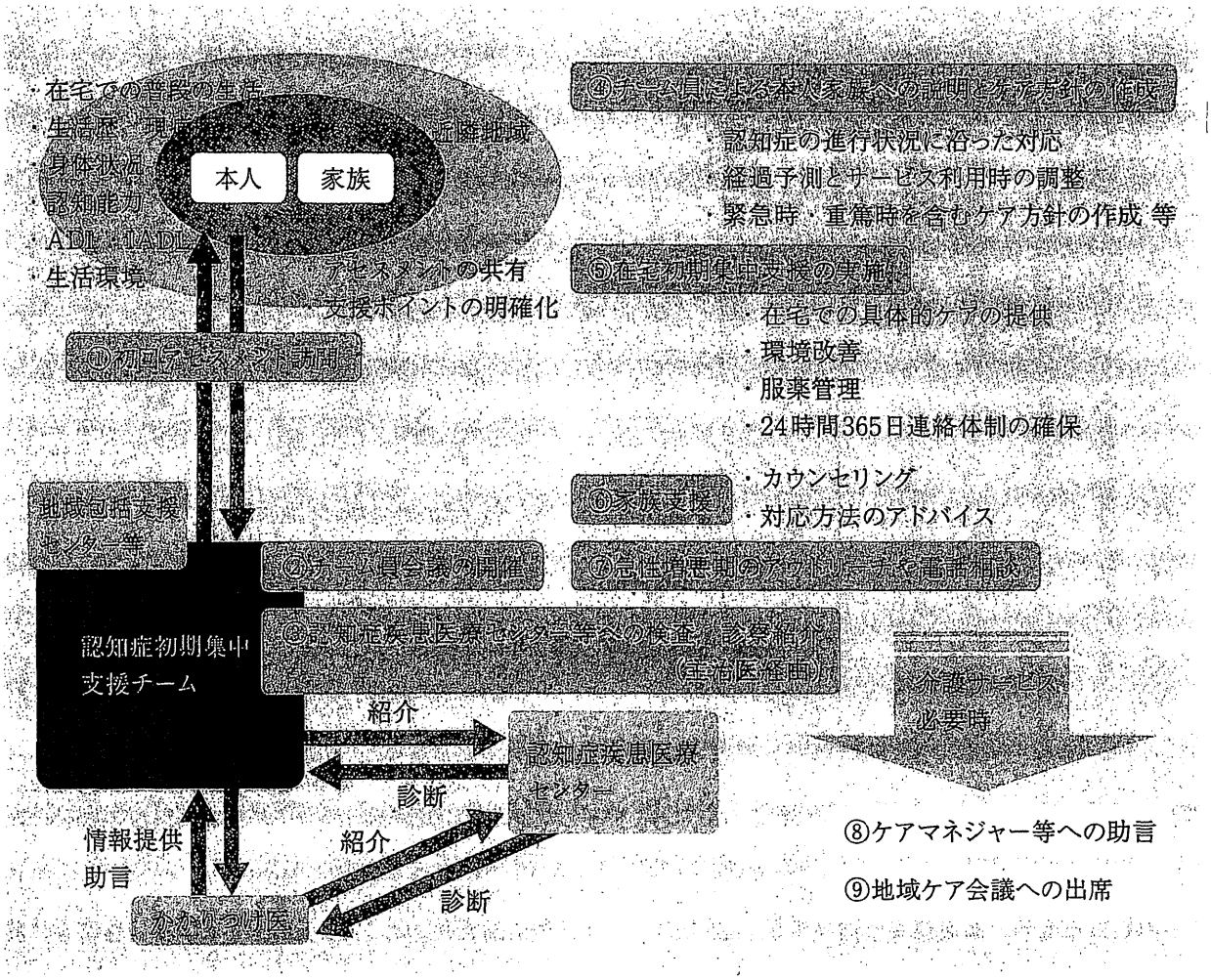

図2　認知症初期集中支援チームの概念図

認知症初期集中支援チームは，家庭訪問によって詳細な情報の収集・初期のアセスメントを行い，チーム員会議においてケア方針の決定や医療機関への紹介等につき検討し，在宅での具体的なケアの提供や家族支援，ケアマネジャーや介護サービス事業者等へのアドバイスなどを行う．

ADL (activities of daily living)，IADL (instrumental ADL，手段的日常生活動作)．

（厚生労働省認知症施策検討プロジェクトチーム，2012[6] より）

ける仕組みについても提案され，BPSD 等による「危機」が発生してからの「事後的な対応」ではなく，「早期支援機能」と「危機回避支援機能」を整備し，「危機」の発生を防ぐ「早期・事前的な対応」を基本方針とした．「早期支援機能」の担い手として新たに提案されたのが「認知症初期集中支援チーム」（**図2**）である．

「認知症初期集中支援チーム」は，看護職員，作業療法士等の専門家から構成され，地域包括支援センター等に配置され，認知症の人が地域での生活を可能な限り維持できるようにするための初期集中支援を，発症後できる限り早い段階で包括的に提供する．たとえば，認知症が疑われる人の家庭を訪問し，生活状況や認知機能等の情報収集や評価を行い，適切な診断へと結びつけ，本人・家族への支援を行うことなどが想定されている．「危機回避支援機能」の役割を期待されるのが上述の「身近型認知症疾患医療センター」で，地域のかかりつけ医やケアマネジャー，「認知症初期集中支援チーム」等の在宅関係機関を支援し，地域の対応力を高めるとともに，介護保険施設や病院等と連携し，認知症の人がBPSD 等により危機的な状況に陥らないよう支援するとされている．