2026 年 8 月 14 日

高齢心血管疾患患者の移行期ケアにおける心臓リハビリテーション断片化予防を目的とした病院地域連携パスの開発

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【抄録】

【目的】 高齢心血管疾患患者における入院関連機能障害（Hospital-Acquired Disability：HAD）の発症率と臨床的特徴を明らかにし、入退院支援を核とした地域連携パス構築の課題を検討すること。**【方法】** 2024 年 1~12 月に当院循環器内科に 3 日以上入院し、心臓リハビリテーション（心リハ）が施行された 65 歳以上の 162 例（平均 82.1±7.1 歳, 男性 75 人：46%）を後方視的に調査した。入院時と比して、退院時に Short Physical Performance Battery（SPPB）の低下を認めたものを HAD 群と定義し、臨床背景や介入プロセスを検討した。**【結果】** HAD 発症率は 3.1%（5 例）であった。維持・改善群（157 例）の SPPB および Barthel Index（BI）の変化量は、2.9±3.3 点、37.9±30.1 点、HAD 群（5 例）での SPPB および BI の変化量は、−1.2±0.4 点、11.3±13.1 点であった。HAD 群は術後透析管理、認知症などの併存症の影響で、急性期リハ加算の算定はなく、自宅退院率は 60%であった。入退院支援を通した、多職種協同カンファレンスにより、回復期病棟への転院、介護区分変更申請を経て自宅退院の転帰が取られていた。**【考察】** 日常生活動作（ADL）が改善し自宅退院が可能となった症例においても、身体機能が十分に回復していない患者が存在することが示された。ハイリスク症例に対しては退院後の生活を見据えた多職種支援を早期から開始することが重要である。SPPB 等の客観的な身体機能評価を地域の医療・介護職へ確実に引き継ぐ仕組みを確立することが、リハビリテーションの断片化を防ぎ、実効性の高い病院地域連携パスの構築に不可欠であると考えられた。

１．研究の目的

わが国では、人口の高齢化とともに心不全患者が急激に増加しており、この状態は「心不全パンデミック」と 称される。加齢に伴う様々な臓器機能変化や恒常性･予備能力低下はフレイルと定義され、このような患者は、入院中に身体機能や日常生活動作の急速な低下を生じ、入院関連機能障害（Hospital-Acquired Disability : HAD）として認知され、発症した患者の予後は不良である。再発予防、心不全入院抑制には、心臓リハビリテーション（心リハ）が有効であり、退院後も継続が必要とされる。このとき、フレイルや交通手段の不足により外来通院が困難である症例も認められることから、かかりつけ医やリハビリ･介護スタッフを含めた地域の医療人材･資材と連携した包括的支援体制を構築することは、喫緊の課題である。しかしながら、病院退院サマリーでは、医療自体の内容が多くを占めており、フレイルや HAD の有無、認知機能、栄養評価などの項目については含まれることが少なく、 患者の療養場所移動によるリハビリテーションの断片化が懸念される。この課題の解決に向けて本研究では、高齢心血管疾患患者を対象に、HAD の発症率や関連因子を探索し、高齢心血管疾患患者における HAD の発症率と臨床的特徴を明らかにし、入退院支援を核とした地域連携パス構築の課題を検討することを目的とする。

２．研究方法と経過

HAD の発症率とその臨床背景、心リハの実施状況および入退院支援を通じた介入プロセスを調査するため、2024 年 1～12 月に当院循環器内科に 3 日間以上入院し心リハを受けた高齢心血管疾患患者における HAD 発症を後方視的にカルテより調査した。リハビリテーション単位数、加算状況については、順天堂医院本郷地区情報センターにご協力頂き、医事課カルテより抽出し、患者臨床背景と突合した。なお、本研究は順天堂大学医学部医学系研究等倫理委員会の承認を得て実施した（倫理承認番号：E26-0013）。

３．研究の成果

3-1：HAD の発症率とその臨床背景、心リハの実施状況について

2024 年 1～12 月に当院循環器内科に 3 日間以上入院し心リハを受けた高齢（65 歳以上）心血管疾患患者のうち、死亡症例 3 例を除外した 162 名について検討を行った。在院日数は、15[10-21]日日であった。入院疾患名は、多いものより順に、心不全が 74 名（46%）、大動脈弁狭窄症が 39 名（24%）、虚血性心疾患が 19 名（12%）、不整脈が 13 名（８%）、その他（大動脈解離、肺高血圧症、感染、貧血、電解質異常）が 17 名（10%）であった。入院時と比して退院時に Short Physical Performance Battery（SPPB）が低下しているものを HAD と定義し、年齢、性別、在院日数、臨床背景、介護認定の有無、リハビリテーション評価項目（Barthel Index：BI, SPPB）、栄養状態について、HAD 発症群と維持・改善群発症群それぞれにおいて検討を行った。HAD 発症率は 3.1%（5 例）であった。身体機能が維持・改善群（157 例）では、SPPB の変化量（退院時 SPPB－入院時 SPPB）および BI の変化量（退院時 BI－入院時 BI）は 2.9 ± 3.3 点 37.9±30.1 点であった一方で、HAD 群（5 例）では、－1.2 ± 0.4 点、11.3±13.1 点であった。維持・改善群では、自宅退院率は 92%（144 例）で、HAD 群では 60%（3 名）であった。入院中の心リハ実施回数は維持・改善群で平均 9.6 ± 6.0 回、HAD 群で 9.3 ± 6.0 回であったが、HAD 群では、いずれにも急性期加算の算定がなく、維持・改善群と比較して、1 日当たりの初期加算も低値であった。カルテ記載より、術後の透析管理、尿閉の合併、認知機能、整形外科的疾患などの理由から、急性期での心リハ実施に影響を及ぼした可能性が示唆された。入退院支援を通して、入院中の経過や社会背景、心リハ実施状況をふまえた多職種カンファレンスが週 1 回行われており、回復期病棟、地域包括支援センター、および介護区分変更申請などの対応が行われていた。

3-2 HAD 発症例（5 例）の詳細プロファイル

5 例全例が「急性期リハビリテーション加算対象外」であった。臨床経過を提示する。また、入院時及び退院時の SPPB の変化を図 1 に、BI の変化を図 2 に示す。

① 83 歳男性: 大動脈弁狭窄症に対する経カテーテル的大動脈弁置換術目的に入院。術後に透析管理が安定するまでに、時間を要し、急性期リハビリ時に介入が困難であった。33 日間の入院加療、SPPB は、12 点→11 点と経過した。自立して身の回りのことを行うには十分に回復したと考えられたが、退院後透析施設に通院するまでの更なる回復を希望され、回復期病棟へ転院された。

② 79 歳女性：うっ血性心不全で入院、20 日間の入院加療で SPPB は、8 点→7 点と経過した。夫との二人暮らしで、長谷川式簡易知能評価スケールは 18 点であったが、自宅退院への希望が強く、介護保険（入院時：要支援１）の区分変更を申請し、地域包括支援センターへ情報を共有し、自宅退院となった。

③ 67 歳男性：心室細動蘇生例、12 日間の入院加療で SPPB は、12 点→10 点と経過した。蘇生後の低酸素脳症や頚椎症の症状から、リハビリテーション単位数の獲得や、自主的な反復練習には困難を要した。入院前より要支援２を取得しており、現在の介入スタッフとの情報共有を行い、自宅退院となった。

④ 85 歳女性: 大動脈弁狭窄症に対する経カテーテル的大動脈弁置換術目的に入院。9 日間の入院加療、SPPB は、8 点→7 点と経過した。入院前よりカートでの移動であったが、介護申請は無しであった。介護申請について、入院中に家族と共有したが、本人は介入を希望されず、自宅退院となった。

⑤ 83 歳男性: 大動脈弁狭窄症に対する経カテーテル的大動脈弁置換術目的に入院。術後に尿閉を合併し、23 日間の入院加療、SPPB は、7 点→6 点と経過した。入院前より要介護２を取得しており、現在の介入スタッフとの情報共有を行い、自宅退院となった。

４．今後の課題

本研究の成果を踏まえ、高齢心血管疾患患者におけるシームレスな地域連携パス構築に向けた今後の課題を以下の 3 点に整理する。

1. 問診的 ADL（BI）に依存しない客観的機能評価（SPPB）の多職種・地域間共有の標準化

HAD 群では BI が平均＋11.3 点と見か

け上改善していたにも関わらず、SPPB は－1.2 点と低下していた。退院サマリー等において BI のみならず SPPB 等の客観的身体機能評価や、入院中での合併症による患者に対する影響、および栄養を含むケア実施状況を項目として盛り込み、かかりつけ医や地域リハ・介護スタッフと共有する仕組みの構築が必要である。

2. 併存症・複合イベントを抱える「急性期リハ」への介入体制と回復期連携の課題

高齢者における併存症の合併は、急性期加療後の HAD 発生に強く関連している。本研究の HAD 群 5 例においても、全例が急性期リハ加算対象外であり、術後透析管理、低酸素脳症、認知機能低下、術後尿閉といった複合障害がリハビリテーション密度の確保や自主練習の阻害要因となっていた。一見自立度が高い症例や精査・処置目的の入院であっても、これら併存症による機能低下を早期に予測し、病棟看護や他科と連携した重点的な HAD 予防プログラムへと繋げることが求められる。一方で、急性期病棟での介入には自ずと限界が存在する。急性期での十分な機能回復が困難な場合には、自宅退院のみならず回復期病棟等へのリハ転院を視野に入れた柔軟な対応が不可欠である。しかし現状では、心血管疾患患者に対する回復期病棟の受入れ基準や医療処置・監視体制の制限等により、心血管疾患患者の回復期転院には高いハードルが存在するという構造的課題がある。今後は、こうした転院阻害要因を解消し、地域全体で早期からシームレスに心リハを継続できる受入れ体制の整備が急務である。

3. 入退院支援を通じた社会資源（介護保険・地域包括）への迅速な接続とパスの開発

HAD 群であっても、週 1 回の多職種協同カンファレンスおよび入退院支援の介在により、回復期転院や介護区分変更・地域包括支援センターとの連携へスムーズに繋げることができた。当院でも、入退院支援部門が院内に設置され、入院前や緊急入院時には、①患者情報の把握②入院前の利用サービスの把握③褥瘡危険因子の評価④栄養状態評価⑤服薬中の薬剤の確認⑥退院困難要因の評価⑦入院中の治療・検査の説明⑧入院生活の説明の 8 点を中心に評価が行われ、退院困難患者の早期抽出、退院支援計画書作成、面談が必要な症例が選定されている。入院加療で HAD を発症した患者では、医療、看護、リハビリテーションの必要度が上がるが、自宅退院可能な患者における、実際の自宅環境や患者状態に見合ったリハビリテーション、ケアの内容に関しては、かかりつけ医と病院医のコラボレーションが十分とは言えず、今後は、SPPB 等の客観的な身体機能評価を地域の医療・介護職へ確実に引き継ぐ仕組みを確立することが、リハビリテーションの断片化を防ぎ、実効性の高い病院地域連携パスの構築に不可欠であると考えられた。さらには、施設での包括的介入の質の評価、診療医師や医療スタッフへの評価の還元、そして改善というサイクルの仕組みが必要と考えられる。本研究で得られた知見を基盤とし、医療・介護の垣根を越えた連携パスの実装と検証を通じて、高齢心血管疾患患者が住み慣れた地域で健やかに暮らせる包括的支援体制の確立に寄与していきたい。

５．研究成果の公表方法

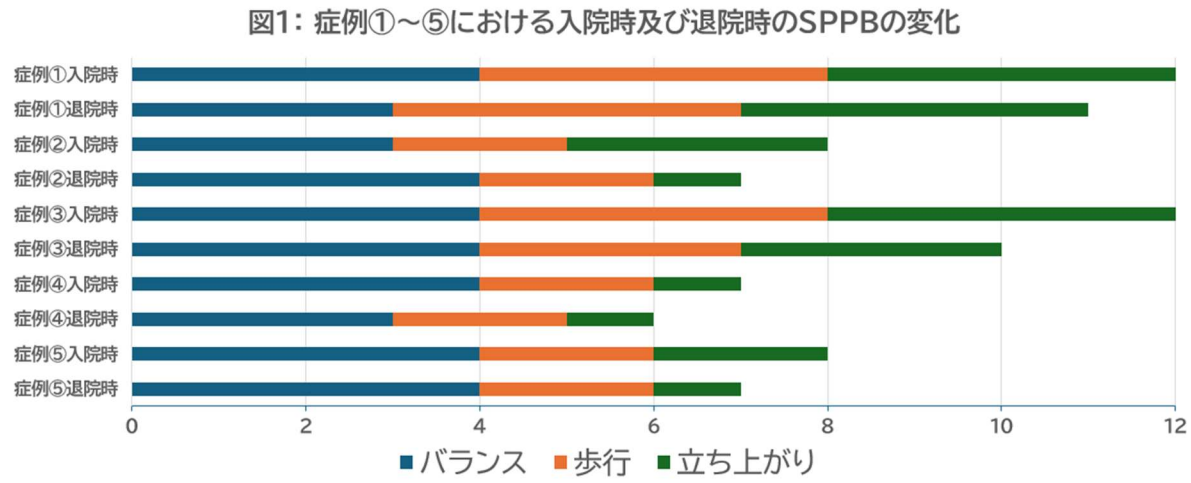
日本循環器学会（2027 年 3 月発表予定）
日本心臓リハビリテーション学会（2027 年 7 月発表予定）

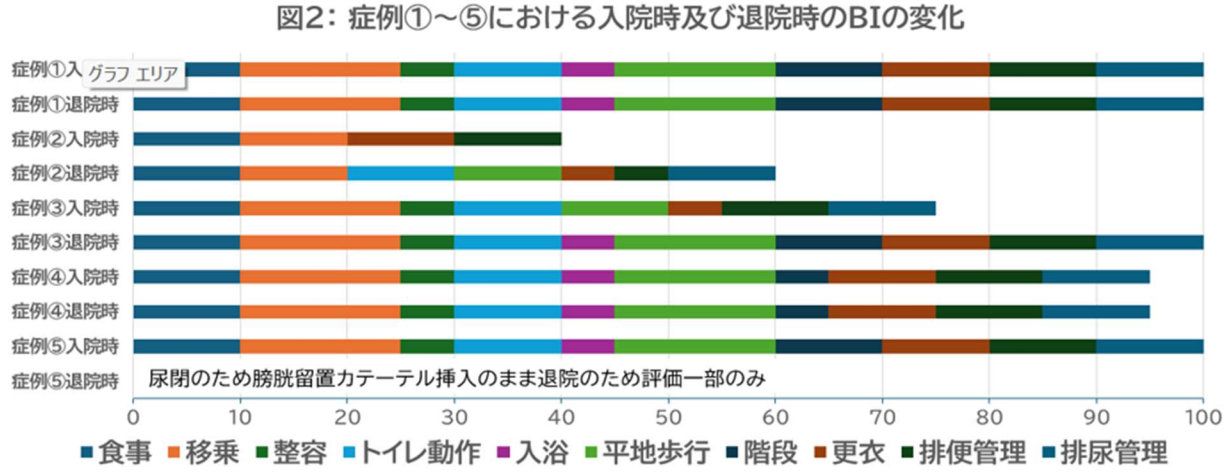
６．謝辞

本研究の推進にあたり、貴重なデータの抽出および集計にご尽力いただきました順天堂本郷地区情報センターの由井誠氏、熊王教雄氏、浅賀翔吾氏、上田直樹氏、順天堂医院事務部医事課入院係の伊瀬真悟氏、ならびにデータ収集にご協力いただきました盛光昭子氏に深甚なる感謝を申し上げます。また、研究協力員として本研究の遂行を支えていただいた上村由貴氏、および研究初期の立ち上げにご協力いただきました西村潤也氏ならびに日常診療およびリハビリテーション実施、入退院支援において多大なご協力を賜りました理学療法士の皆様、循環器内科病棟スタッフの皆様、および入退院支援センターの皆様に心より深く感謝申し上げます。

図 1 : HAD 発症例（症例①～⑤）における入院時・退院時の SPPB の変化
積み上げ棒グラフは、SPPB の構成要素（バランス機能、歩行速度、5 回立ち上がり：各 4 点満点、合計 12 点満点）を示す。全例で SPPB 低下を認めたが、低下の主因は症例①・⑤ではバランス機能、症例②・④では立ち上がり能力、症例③では歩行速度および立ち上がり能力と、症例により異なるパターンを呈した。

図 2 : HAD 発症例（症例①～⑤）における入院時・退院時の BI の変化
10 の ADL 項目（食事、移乗、整容、トイレ動作、入浴、平地歩行、階段昇降、更衣、排便管理、排尿管理）の合計点（100 点満点）を示す。症例②・③では問診 ADL（BI）が大幅に改善している一方で、実測身体機能（SPPB）は低下している状況を認めた。 ※症例⑤退院時：尿閉に伴う膀胱留置カテーテル挿入のまま退院となったため、退院時 BI は一部未評価である。





Development of a Hospital-Community Care Pathway to Prevent Fragmentation of Cardiac Rehabilitation in Transitional Care for Older Patients with Cardiovascular Disease

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[Purpose]
To clarify the incidence and clinical characteristics of Hospital-Acquired Disability (HAD) in older patients with cardiovascular disease, and to examine the challenges in constructing a hospital-community linked care path centered on admission and discharge support.
[Methods]
We retrospectively investigated 162 patients aged 65 years or older (mean age: 82.1 ± 7.1 years, 75 males: 46%) who were hospitalized in the Department of Cardiovascular Medicine at our hospital for 3 days or more between January and December 2024 and underwent cardiac rehabilitation. Patients who exhibited a decrease in the Short Physical Performance Battery (SPPB) score at discharge compared to admission were defined as the HAD group, and their clinical backgrounds and intervention processes were examined.
[Results]
The incidence of HAD was 3.1% (5 cases). The changes in SPPB and Barthel Index (BI) scores in the maintained/improved group (157 cases) were 2.9 ± 3.3 points and 37.9 ± 30.1 points, respectively. In contrast, the changes in SPPB and BI scores in the HAD group (5 cases) were −1.2 ± 0.4 points and 11.3 ± 13.1 points, respectively. Due to comorbidities such as postoperative hemodialysis management and dementia, no acute phase rehabilitation premium was billed for the HAD group, and the home discharge rate was 60%. However, through multidisciplinary conferences utilizing admission and discharge support, appropriate clinical outcomes—including transfer to convalescent rehabilitation wards and discharge to home following applications for care level reassessment—were achieved.
[Conclusion]
This study revealed that even among patients whose activities of daily living (ADL) improved to allow home discharge, some did not achieve sufficient recovery of physical function. Beyond early rehabilitation, initiating early multidisciplinary support tailored to post-discharge living is essential for high-risk patients. Furthermore, transferring objective assessments of physical function, such as the SPPB, to community healthcare and long-term care professionals is indispensable for preventing the fragmentation of rehabilitation and establishing an effective hospital-community linked care path.

1. Aim of Research

In Japan, the rapid increase in heart failure patients alongside the aging population is referred to as the "heart failure pandemic." Age-related functional organ changes and reduced physiological reserve are defined as frailty. Such patients are prone to acute declines in physical

function and activities of daily living (ADL) during hospitalization, recognized as Hospital-Acquired Disability (HAD), which leads to poor prognoses. Cardiac rehabilitation (CR) is effective in preventing recurrence and suppressing heart failure readmissions, requiring continuation post-discharge. However, due to frailty or lack of transportation, outpatient attendance can be challenging. Establishing a comprehensive support system in collaboration with community medical and care resources-including primary care physicians, rehabilitation staff, and care workers-is an urgent issue. Nevertheless, hospital discharge summaries predominantly cover medical details, rarely including items such as frailty, presence of HAD, cognitive function, or nutritional assessments. This raises concerns regarding the fragmentation of rehabilitation as patients transition between care settings. To address this issue, this study aims to explore the incidence and associated factors of HAD among elderly patients with cardiovascular disease, clarify its clinical characteristics, and examine challenges in constructing a hospital-community linked care path centered on admission and discharge support.

2. Method of Research & Progression

To investigate the incidence of HAD, its clinical background, the implementation status of CR, and intervention processes via admission and discharge support, a retrospective chart review was conducted for elderly cardiovascular patients aged 65 and older who were hospitalized in the Department of Cardiovascular Medicine for 3 days or more and received CR between January and December 2024. Data regarding rehabilitation units and additional billing premiums were extracted from medical record databases with the assistance of the Juntendo Hospital Hongo District Information Center and the Medical Records Division, and cross-referenced with patient clinical backgrounds. This study was conducted with the approval of the Ethics Committee of Juntendo University Faculty of Medicine (Approval No.: E26-0013).

3. Results of Research

3-1 Incidence of HAD, Clinical Background, and Implementation Status of Cardiac Rehabilitation

Among elderly (aged 65 or older) cardiovascular patients hospitalized for 3 days or more and receiving CR between January and December 2024, 162 patients were analyzed after excluding 3 deceased cases. The median length of hospital stay was 15 [10–21] days. Primary admission diagnoses were heart failure in 74 patients (46%), aortic stenosis in 39 (24%), ischemic heart disease in 19 (12%), arrhythmia in 13 (8%), and others (aortic dissection, pulmonary hypertension, infection, anemia, electrolyte imbalance) in 17 (10%). HAD was defined as a decline in the Short Physical Performance Battery (SPPB) score at discharge compared to admission. Age, sex, length of stay, clinical background, long-term care certification status, rehabilitation parameters (Barthel Index [BI], SPPB), and nutritional status were examined in both the HAD group and the maintained/improved group. In the maintained/improved group (157 cases), the changes in SPPB (discharge SPPB − admission SPPB) and BI (discharge BI − admission BI) were 2.9 ± 3.3 points and 37.9 ± 30.1 points, respectively, whereas in the HAD group (5 cases), they were −1.2 ± 0.4 points and 11.3 ± 13.1 points, respectively. The home discharge rate was 92% (144 cases) in the maintained/improved group and 60% (3 cases) in the HAD group. The mean number of CR sessions during hospitalization was 9.6 ± 6.0 in the maintained/improved group and 9.3 ± 6.0 in the HAD group; however, no acute phase rehabilitation premiums were billed for the HAD group, and their daily early-phase premiums were lower. Chart reviews suggested that factors such as postoperative hemodialysis management, urinary retention, cognitive function, and orthopedic comorbidities negatively affected acute phase CR implementation. Weekly multidisciplinary conferences utilizing admission and discharge support reviewed

clinical progress, social background, and CR status, leading to appropriate actions such as transfers to convalescent wards, referrals to community comprehensive support centers, and applications for care level reassessments.

3-2 Detailed Profiles of the 5 HAD Cases

All 5 cases fell under the category of "Excluded from Acute Phase Rehabilitation Premium." The clinical courses are presented below. Changes in SPPB and BI at admission and discharge are shown in Figure 1 and Figure 2, respectively.

- **Case ① (83-year-old male):** Admitted for transcatheter aortic valve implantation (TAVI) for aortic stenosis. Postoperative hemodialysis management required time to stabilize, making early acute rehabilitation intervention difficult. During a 33-day stay, SPPB changed from 12 to 11 points. Although recovered sufficiently for independent basic self-care, the patient desired further recovery before commuting to an outpatient dialysis clinic and was transferred to a convalescent rehabilitation ward. BI was evaluated as 100 → 100, and the 1-point decrease in SPPB was attributed to standing balance.
- **Case ② (79-year-old female):** Admitted for congestive heart failure; SPPB changed from 8 to 7 points over a 20-day stay. Living with her husband, her Hasegawa's Dementia Scale-Revised (HDS-R) score was 18 points. Due to a strong desire for home discharge, an application for care level reassessment (Support Level 1 at admission) was filed, information was shared with the Community Comprehensive Support Center, and home discharge was achieved. BI changed from 40 to 60 points (improvements in toilet use, walking on level surfaces, and bowel/bladder control; dressing changed from 10 to 5 points). SPPB balance improved from 3 to 4, but chair stand score dropped from 3 to 1, resulting in a TOTAL change of 8 → 7 points.
- **Case ③ (67-year-old male):** Resuscitated from ventricular fibrillation; SPPB changed from 12 to 10 points over a 12-day stay. Due to hypoxic encephalopathy and cervical spondylosis following resuscitation, gaining rehabilitation units and self-directed repetitive exercises were challenging. Having already obtained Care Support Level 2 prior to admission, information was shared with current intervention staff, achieving home discharge. BI changed from 75 to 100 points. SPPB walking and chair stand scores each decreased from 4 to 3 (−2 points overall).
- **Case ④ (85-year-old female):** Admitted for TAVI for aortic stenosis; SPPB changed from 8 to 7 points over a 9-day stay. Mobility prior to admission relied on a walking cart, but no long-term care insurance was applied. Long-term care application was discussed with the family during hospitalization, but the patient did not desire intervention, leading to home discharge. BI remained at 95 → 95 points. SPPB balance-walk-chair stand scores shifted from 4-2-2 to 4-2-1 (−1 point overall).
- **Case ⑤ (83-year-old male):** Admitted for TAVI for aortic stenosis. Complicated by postoperative urinary retention, SPPB changed from 7 to 6 points over a 23-day stay. Having obtained Care Level 2 prior to admission, information was shared with current intervention staff, achieving home discharge. Admission BI was 100 points, but due to discharge with a urinary catheter in place, discharge BI was only partially evaluated. SPPB balance-walk-chair stand scores shifted from 4-2-1 to 3-2-1 (−1 point overall).

4. Future Area to Take Note of, and Going

Forward

Based on these findings, future challenges for establishing a seamless hospital-community linked care path for elderly cardiovascular patients are summarized as follows:

1. **Standardizing Objective Functional Assessment (SPPB) Sharing:**

Despite a mean BI improvement (+11.3 points), HAD patients experienced a decrease in SPPB (−1.2 points). Relying solely on subjective ADL (BI) risks overlooking functional decline. Standardized mechanisms are needed to include objective physical evaluations (SPPB), inpatient complication impacts, and nutritional statuses in discharge summaries for community healthcare providers.

2. **Managing Comorbidities in Acute Care and Overcoming Convalescent Transfer Barriers:**

All HAD cases were ineligible for acute-phase rehabilitation premiums due to complex comorbidities (e.g., dialysis, encephalopathy, cognitive decline, urinary retention) that hindered rehabilitation intensity. Early prediction of comorbidity-driven decline and ward-based inactivity prevention are crucial. When acute-phase recovery is limited, transferring patients to convalescent rehabilitation wards becomes essential; however, structural barriers such as strict admission criteria and medical/cardiac monitoring limits must be resolved to ensure continuous regional cardiac rehabilitation (CR).

3. **Establishing a Hospital-Community Linked Care Path and PDCA Cycle:**

Early multidisciplinary conferences and admission/discharge support enabled timely connections to social resources (e.g., long-term care insurance, community support centers). To prevent CR fragmentation and address the growing care demands of the "2040 problem," a comprehensive "Hospital-Community Linked CR Care Path" must be developed. Implementing a continuous PDCA cycle—from standardized discharge templates to quality feedback—will optimize limited healthcare resources, prevent care-dependent states, and support elderly patients in living healthily within their communities.

5. Means of Official Announcement of Research Results

・The 91st Annual Scientific Meeting of the Japanese Circulation Society (Scheduled for presentation in March 2027)

・The 33rd Annual Scientific Meeting of the Japanese Association of Cardiac Rehabilitation (Scheduled for presentation in July 2027)

6. Acknowledgments

We express our deepest gratitude to Mr. Makoto Yui, Mr. Norio Kumaou, Mr. Shogo Asaga, and Mr. Naoki Ueda of the Juntendo Hongo District Information Center, and Mr. Shingo Ise of the Inpatient Section, Medical Affairs Division, Juntendo University Hospital, for their dedicated assistance in data extraction and aggregation. We also sincerely thank Ms. Akiko Morimitsu for her cooperation in data collection, Ms. Yuki Uemura for her support as a research assistant, and Mr. Junya Nishimura for his valuable contributions during the initial setup of this study. Furthermore, we extend our heartfelt appreciation to the physical therapists and staff involved in cardiac rehabilitation, the ward staff of the Department of Cardiovascular Medicine, and the staff of the Admission and Discharge Support Center for their immense cooperation in routine clinical care, rehabilitation implementation, and discharge planning.

Development of a Hospital-Community Care Pathway to Prevent Fragmentation of Cardiac Rehabilitation in Transitional Care for Older Patients with Cardiovascular Disease

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[Purpose]
To clarify the incidence and clinical characteristics of Hospital-Acquired Disability (HAD) in older patients with cardiovascular disease, and to examine the challenges in constructing a hospital-community linked care path centered on admission and discharge support.
[Methods]
We retrospectively investigated 162 patients aged 65 years or older (mean age: 82.1 ± 7.1 years, 75 males: 46%) who were hospitalized in the Department of Cardiovascular Medicine at our hospital for 3 days or more between January and December 2024 and underwent cardiac rehabilitation. Patients who exhibited a decrease in the Short Physical Performance Battery (SPPB) score at discharge compared to admission were defined as the HAD group, and their clinical backgrounds and intervention processes were examined.
[Results]
The incidence of HAD was 3.1% (5 cases). The changes in SPPB and Barthel Index (BI) scores in the maintained/improved group (157 cases) were 2.9 ± 3.3 points and 37.9 ± 30.1 points, respectively. In contrast, the changes in SPPB and BI scores in the HAD group (5 cases) were −1.2 ± 0.4 points and 11.3 ± 13.1 points, respectively. Due to comorbidities such as postoperative hemodialysis management and dementia, no acute phase rehabilitation premium was billed for the HAD group, and the home discharge rate was 60%. However, through multidisciplinary conferences utilizing admission and discharge support, appropriate clinical outcomes—including transfer to convalescent rehabilitation wards and discharge to home following applications for care level reassessment—were achieved.
[Conclusion]
This study revealed that even among patients whose activities of daily living (ADL) improved to allow home discharge, some did not achieve sufficient recovery of physical function. Beyond early rehabilitation, initiating early multidisciplinary support tailored to post-discharge living is essential for high-risk patients. Furthermore, transferring objective assessments of physical function, such as the SPPB, to community healthcare and long-term care professionals is indispensable for preventing the fragmentation of rehabilitation and establishing an effective hospital-community linked care path.