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Vascular Access in the Elderly HD Patients in Japan

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According to the statistical survey by the year-end Japanese society for dialysis therapy (JSDT) Renal Data Registry (JRDR) in 2020, the average age of induction of dialysis patients was 70.88 years overall, 70.19 years for men and 72.48 years for women, which basically indicates that dialysis therapy is a treatment often targeted to elderly patients. In such a situation, 93.9% of the patients are introduced with hemodialysis, and good Vascular Access (VA) is essential to maintain stable hemodialysis therapy. The stable use of a VA is a critical issue for hemodialysis patients, as it determines whether or not they can continue their treatment and, therefore, whether or not their lives can be sustained. According to JRDR, VAs currently used are classified as AVF, AVG, arterial superficialization, direct arterial puncture, tunneled central venous catheter (TCVC), non-tunneled central venous catheter (NTCVC), single needle dialysis, external shunt, and others. AVFs have decreased in frequency and AVGs and cuffed catheters have increased in frequency over time. These reflect the increase in diabetic nephropathy and an aging population with more patients with vascular devastation and poor cardiac function. In light of this background, it is important for us to make efforts to carefully manage and maintain the current VA and to select the modality of choice. Recently, evaluation of flow volume (FV) and resistance index (RI) for surveillance and shunt vessel morphology have become routine in this field, and are finally being specified as a condition for insurance coverage. In 2021, the IN.PACT™ AV, a DCB (Drug-Coated Balloon) balloon for AVF stenosis, and the GORE® VIABURN® stent graft for artificial vessels, will be covered by insurance and have shown excellent results. In addition, new types of TCVC have been launched one after another in the past five years, expanding the range of choices. It is necessary for dialysis therapists to understand the characteristics of each type of VA and to select a tailor-made treatment according to the patient's pathological condition. We hope this presentation will help in this regard.

Changes of VA modality in JAPAN

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| | AVF | AVG | superficiali zation | direct puncture (artery) | TCV C | NTCVC | single needle dialysis | external shunt | others |
|------|------|-----|------------------------|--------------------------------|----------|-------|------------------------------|-------------------|--------|
| 1998 | 91.4 | 4.8 | 2.5 | — | — | — | — | 0.2 | 1.1 |
| 2008 | 89.7 | 7.1 | 1.8 | 0.1 | 0.5 | 0.5 | 0.2 | — | 0.1 |
| 2017 | 89 | 7.3 | 1.8 | 0.1 | 1.4 | 0.4 | — | — | 0.1 |

JRDRdata

Japanese-style surveillance

Japanese-style surveillance

1) Evaluation of VA function

- blood flow volume (FV)
- resistance index (RI)

2) Morphological evaluation

3) VA recirculation (RR)



Doppler
ultrasound



HD03

*Currently, the penetration rate of ultrasonic diagnostic equipment in dialysis facilities **in Japan** is reported to be **80%**.