decreased elimination half-life, probably attributable to the early gastric lavage associated with repeated instillation of active charcoal, both of which reduce enteral absorption of drugs.

Continuous IV infusion of flumazenil was shown to be a better mode of treatment than boluses, both because of its short half-life (54 minutes) and the wish to avoid patient fluctuations in and out of coma. Rectal administration has recently been mentioned as a safe alternative regimen. Long-term enteral administration, here described for the first time, was easy to carry out, obviated placement of IV lines, had a rapid onset, was as efficacious as the IV mode, was less costly, and was free from physical or mental side effects. Although not yet available in many countries, oral flumazenil administration has the potential to become the long-term treatment of choice for benzodiazepine-induced coma, especially in patients who are alternately awake and relapsing into coma.

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PREVALENCE AND RISK FACTORS OF PERIPHERAL ARTERIAL DISEASE AMONG OLDER PATIENTS LIVING IN NURSING HOMES

To the Editor: Peripheral Arterial Disease (PAD) is one of the most common clinical manifestations of atherosclerosis in older subjects and represents an important cause of disability. However, few studies have investigated the prevalence of the disease in very old patients and in older subjects living in nursing homes. In these patients, it may be very difficult to diagnose PAD based on clinical symptoms and physical signs, resulting in a systematic understimation of its prevalence. This fact is relevant not only because it can lead to an accelerated worsening of the individual disability, but also because of the greater economic and assistance impact that will result when the disease reaches more advanced stages.

The objective of our study was to evaluate the prevalence of PAD, defined by a C.W. Doppler determination of an Ankle-to-Arm Index (AAI) < 0.90±0.4 and its relation with risk factors, in older patients living in nursing homes.

In 418 patients (83 men, 335 women, average age 83.7 ± 8.5 years, range 55–102 years) living in two metropolitan nursing homes, the AAI was calculated by a senior physician using the C.W. Doppler technique according to carefully standardized procedures followed in our laboratory. Medical history and main traditional cardiovascular risk factors were considered (age, male gender, hypertension, cigarette smoking, diabetes, hypercholesterolemia, and previous cardiovascular diseases). Using the ability to move or walk as the standard, patients were classified as completely incapable of moving, or bedridden; partially incapable of moving or moving with assistance; and able to move independently. Categorical variables were analyzed using the chi-square test; Student t test and analysis of variance were used to evaluate continuous variables. Multiple logistic regression analysis, forward stepwise method, was performed.

One hundred twenty-two patients (29.2%) were diagnosed as having PAD: the age- and sex-specific prevalence of PAD is reported in Table 1. In spite of the high prevalence of PAD, very few patients were symptomatic: no patients complained of claudication, and three patients had lower limb rest pain. To test the possibility that symptoms had been attenuated by reduced walking activity, the history of symptoms consistent with claudication was investigated in patients with evidence of PAD: only 15 of 122 patients had a medical history and Rose questionnaire consistent with previous claudication. Among traditional risk factors, age greater than 95 years (P < .05), systolic blood pressure values (P < .0001), and previous history of myocardial infarction or angina (P < .05) were positively and independently associated with PAD. Interestingly, prevalence of PAD was signif-

Table 1. Prevalence of PAD According to Age-Classes in Men and Women

<table>
<thead>
<tr>
<th>Age-Classes (Years)</th>
<th>Men</th>
<th>Women</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>55–64</td>
<td>1 (10)</td>
<td>0</td>
<td>1 (7.1)</td>
</tr>
<tr>
<td>n 14</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>65–74</td>
<td>5 (20)</td>
<td>5 (17.2)</td>
<td>10 (18.5)</td>
</tr>
<tr>
<td>n 54</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>75–84</td>
<td>13 (54.2)</td>
<td>31 (29.5)</td>
<td>44 (34.1)</td>
</tr>
<tr>
<td>n 129</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>85–94</td>
<td>8 (40)</td>
<td>45 (26)</td>
<td>53 (27.5)</td>
</tr>
<tr>
<td>n 193</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>95–102</td>
<td>0</td>
<td>14 (58.3)</td>
<td>14 (50)</td>
</tr>
<tr>
<td>n 28</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>27 (32.5)</td>
<td>95 (24.4)</td>
<td>122 (29.2)</td>
</tr>
<tr>
<td>P &lt; .05</td>
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<td>P &lt; .01</td>
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<td>P &lt; .01</td>
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</tbody>
</table>
Introducing the condition of partial or complete immobility into the multiple logistic model with other covariates resulted in strong and independent association are unknown. It appears extremely unlikely that the condition of partial or total immobility is determined mainly by the arteriopathy itself: in fact, few patients had medical histories consistent with claudication, and only three patients had lower limb rest pain at the time of the visit. On the other hand it is not clear how immobility can determine PAD or, at least, a reduction in the AAI values. It has been postulated that prolonged physical inactivity would reduce blood flow through main arteries and collateral vessels, thus inducing modifications in peripheral arteriolar resistances. Moreover, hypertrophy of lower limb muscular mass consequent to prolonged inactivity could contribute to the reduction of vascular perfusion pressure. However, in the absence of instrumental vascular findings confirming the presence of arteriopathy, it may be the definition of PAD itself (AAI < 0.90) that is inadequate for these patients. We can not exclude that, in these very old patients, low AAI values represent, to some extent, a physiological consequence of immobility rather than the expression of a true pathological condition. Further investigation that combines morphological information with AAI detection could contribute to our understanding of this topic.

We conclude that there is a high, systematically underestimated, age-related prevalence of PAD in older adults living in nursing homes. Conditions of partial or complete immobility seem to be strongly associated with evidence of PAD.

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Figure 1. Aspergillus Flavus, magnification x 400.