For non-Hermitian matrix:

$$HR = RE$$

and

$L^+H = EL^+$ equivalently $H^+L = LE^+$

$L^+R = D$ diagonal, but not unity

Then:

$$\exp(H) = I + H + \frac{1}{2!}H^2 + \frac{1}{3!}H^3 \ldots$$

$$L^+ \exp(H)\, R = L^+IR + L^+HR + \frac{1}{2!}L^+H * HR + \frac{1}{3!}L^+H * H * HR + \cdots$$

$$L^+ \exp(H)\, R = DI + L^+RE + \frac{1}{2!}L^+HRE + \frac{1}{3!}L^+HHRE \ldots$$

$$L^+ \exp(H)\, R = D + DE + \frac{1}{2!}L^+RE^2 + \frac{1}{3!}L^+HRE^2 \ldots$$

$$L^+ \exp(H)\, R = D + DE + \frac{1}{2!}DE^2 + \frac{1}{3!}L^+RE^3 \ldots$$

$$L^+ \exp(H)\, R = D + DE + \frac{1}{2!}DE^2 + \frac{1}{3!}DE^3 \ldots$$

$$L^+ \exp(H)\, R = D \exp(E)$$

$$\exp(H) = (L^+)^{-1}L^+R \exp(E)\, R^{-1}$$