Figure S1. Confocal images of sham group

A-I, Representative confocal images showing ipsilateral striatum (A-H) or SVZ (I) of day-7 sham group labeled with DAPI (blue), GFAP (cyan), ABCA1 (green) and Iba1 (red) (A); DAPI (blue), Iba1 (cyan), GFAP (green) and ApoE (red) (B); DAPI (blue), IL1β (green) and Iba1 (red) (C); DAPI (blue), CD68 (green), CD206 (red) and Arg1 (magenta) (D); DAPI (blue), Bodipy (green) and Iba1 (red) (E); DAPI (blue), crystal (gray), Fluoromyelin (green) and Iba1 (red) (F); DAPI (blue), PDGFRα (cyan), CC1 (green), GFAP (yellow) and Olig2 (red) (G); DAPI (blue), SOX2 (green), nestin (red) and Ki67 (magenta) (H-I). Scale bar, 100 μm.
Figure S2. GW3965 changes LXR and M/M phenotype related gene expression

A-B, Bar graphs comparing ABCA1 (A) or ApoE (B) mRNA expression of day-7 perihematomal tissue between GW3965 treatment and DMSO control group; the sample size was n=3 per group. C, Representative western blot images of ABCA1 and ApoE from day-7 perihematomal tissue. D-E, Bar graphs comparing ABCA1 (D) or ApoE (E) protein expression level of day-7 perihematomal tissue between DMSO and GW3965 treated mice; the sample size was n=3 per group. F, Representative western blot images of IL-1β, iNOS, CD206 and Arg1 from day-7 perihematomal tissue. G-J, Bar graphs comparing IL-1β (G), iNOS (H), CD206 (I) or Arg1 (J) protein expression level of day-7 perihematomal tissue between DMSO and GW3965 treated mice; the sample size was n=3 per group. Significance is indicated as *P < 0.05, **P < 0.01, ***P < 0.001; two-tailed, unpaired t-test. Bar graphs show individual data points and represent mean ± s.d.
Figure S3. GW3965 alleviates lipid accumulation in day-14 lesions

A, Representative confocal images of day-14 lesion labeled with DAPI (blue), Bodipy (green), and Iba1 (red). Scale bar, 100 μm. B-C, Bar graphs comparing the Bodipy+ percentage (B), and Iba1+Bodipy+ over Iba1+ proportions (C) between GW3965 treatment and DMSO control within the lesion at day 14; the sample size was n=8 per group. Significance is indicated as **P < 0.01; two-tailed, unpaired t-test with Welch’s correction. Bar graphs show individual data points and represent mean ± s.d.
Figure S4. Confocal images of white matter tracts

A-B, Representative confocal images of sham or day-14 perilesional region labeled with DAPI (blue), Fluoromyelin (green), and NFH (red) (A); or DAPI (blue), Olig2 (cyan), MBP (green) and NFH (red) (B). Scale bar, 100μm.
Figure S5. Collagenase induced brain hemorrhage causes tissue damage and disability

A-B. Representative images of coronal brain sections at different time points after intrastratal injection of collagenase or saline. Sections were labeled with DAPI (blue), CD68 (green), GFAP (red) and NeuN (magenta) (A); or DAPI (blue), MBP (green), Olig2 (red) and NFH (magenta) (B). The left corner within dotted lines of magnified images depicts the lesion center. Scale bar: overview of the first row, 1 mm; magnified images of the second row, 100 μm.

C-D. Quantification comparing the performance of rotarod (C) or grip strength (D) between ICH and sham groups at different time points after or before the injury; the sample size was n=6 per group. DPI, days post-injury; ns, not significant. Significance is indicated as ****P < 0.0001; two-way ANOVA with Bonferroni's multiple comparison's test. Data are the mean ± s.d.
Figure S6. Enhanced LXR signaling may facilitate neurogenesis

A, Representative confocal images of day-14 lesion labeled with DAPI (blue), CD68 (green), NFH (red), and APP (magenta). B, Representative confocal images of sham or lesion labeled with DAPI (blue), SOX2 (cyan) and nestin (green) and APP (red). C, Representative confocal images of SVZ labeled with DAPI (blue), SOX2 (green), nestin (red), and APP (magenta). Scale bar, 100 μm. D-E, Bar graphs comparing the density of APP+ cells (D) and APP+SOX2+ over APP+ proportion (E) in day-14 lesion between GW3965 treatment and DMSO control; the sample size was n=8 per group. Significance is indicated as ****P < 0.0001; two-tailed, unpaired t-test. Bar graphs show individual data points and represent mean ± s.d.
Figure S7. Brain regions of representative confocal images

Schematic shows the brain regions of representative confocal fluorescent images reported in figures. Coronal sections containing the lesion epicenter from each animal were selected for analyses. For tile scans, whole lesion and perihematomal regions in striatum were analysed. For day 7 animals with a large hematoma, four field of view (FOV) locations of perihematomal region were renumerated, and one representative FOV image was displayed in figures. In day-14 lesion where the hematoma has largely resolved, a single FOV is sufficient to capture most of the lesion and perilesional region. Finally, a single FOV of ipsilateral SVZ was selected for analysis and display. Schematic was generated with BioRender.
Figure S8. M/M depletion abrogates GW3965 mediated functional recovery and neurogenesis

A, Bar graph comparing the latency of rotarod test among groups including saline+DMSO, saline+GW3965, DT+DMSO and DT+GW3965 at different time points before and after the injury; the sample size was n=4 for each saline group; n=8 for DT+DMSO group; n=8 for DT+GW3965 mice before and 1 and 3 days after injury. There was n=7 for DT+GW3965 group at day 7 due to an animal death. DPI, days post-injury; ns, not significant.

B, Representative confocal images of day-7 subventricular zone (SVZ) labeled with DAPI (blue), Nestin (gray), SOX2 (green), and DCX (red). Scale bar, 100 μm. Two-way ANOVA with Bonferroni’s multiple comparison’s test.